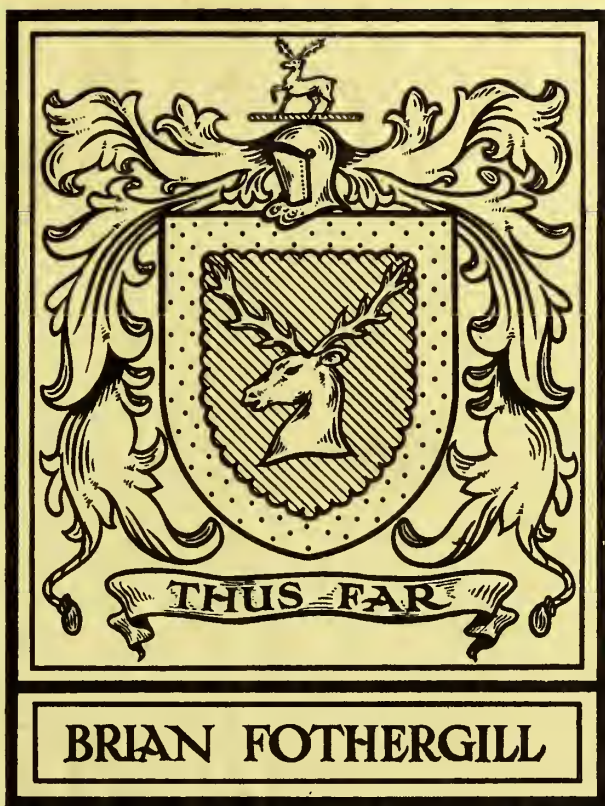




Chris.^r Jeaffreson, Esq.
Dullingham.



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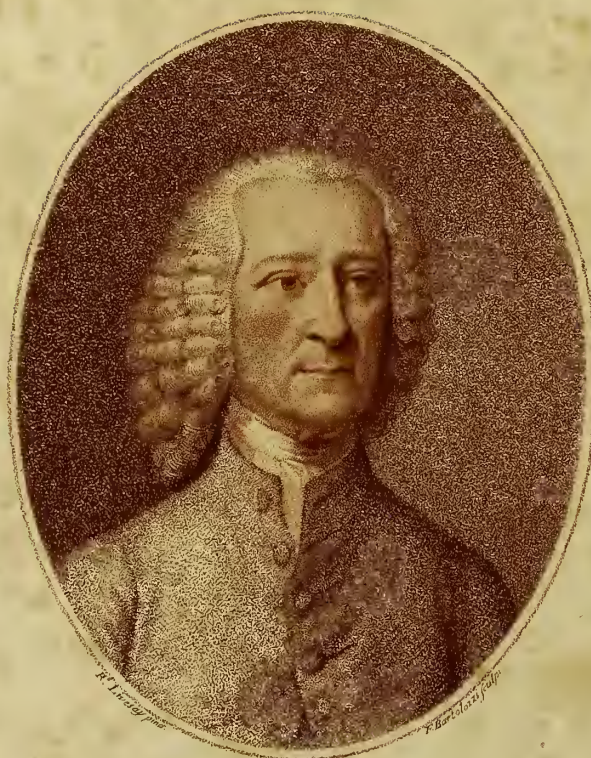
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JOHN FOTHERGILL

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THE
WORKS
OF

John Fothergill, M. D.

MEMBER OF THE ROYAL COLLEGE OF PHYSICIANS, AND FELLOW OF THE ROYAL
SOCIETY, OF LONDON;

FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS IN EDINBURGH;

AND CORRESPONDING MEMBER OF THE ROYAL MEDICAL SOCIETY OF PARIS,

AND OF THE AMERICAN PHILOSOPHICAL SOCIETY AT PHILADELPHIA.

WITH
SOME ACCOUNT OF HIS LIFE.

By JOHN COAKLEY LETTSOM.

Ἰητροῦς γὰρ ἀνὴρ πολλῶν ἀντάξιός ἄλλων.

Hom. Iliad, xj. 514.

L O N D O N:
Printed for CHARLES DILLY, in the Poultry.

M.DCC.LXXXIV.

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CUI SUAS ARTES, SUA DONA LÆTUS
ET HERBAM ET VENÆ SALIENTIS ICTUM
SCIRE CONCESSIT, CELEREM ET MEDENDI
DELIUS USUM.

ROYAL COLLEGE
OF
PHYSICIANS
OF
LONDON

P R E F A C E.

IT is by no means requisite to apprize the Public of the importance of the following Essays: the general estimation of the writings of the late Dr. FOTHERGILL, is such, as to preclude any apology for giving a complete edition of them; and the detached manner in which they have been published in different works, while it augments the difficulty of collecting them together, will doubtless render such a collection more acceptable to the Public.

The Essays are not arranged exactly in the order of time, in which they were originally written; as they were dispersed in various works, the Editor was more solicitous of extracting them from each publication collectively, than of preserving chronological order, as they admit in some respects of distinct divisions: thus, after the Inaugural Thesis, the Meteorological Pieces from the Gentleman's Magazine are introduced; these are succeeded by others from the Philosophical Transactions, chiefly comprizing Natural History; the Practical Essays from the Medical Observations and Enquiries, follow next; and afterwards the Biographical and Miscellaneous Dissertations: and it happens at the same time, that this arrangement does not materially interrupt the chronological order, and where it does, it may be restored at pleasure, by referring to the title of each article, in which is specified the time of its publication. But to remove any inconvenience or objection from the circumstance alluded to, a complete Chronological Table of Contents is prefixed, including the posthumous essays, which, with those addressed to the Editor, constitute a considerable part of the present collection.

By the partiality indeed of correspondents, much more has been communicated to him than he has ventured to publish. Few men wrote

P R E F A C E.

more than Dr. FOTHERGILL has done, or more usefully; and were all his letters and manuscript essays, of which the Editor could enumerate upwards of one hundred in his own possession, laid before the public, perhaps the importance of the Doctor's life, and the utility and magnitude of his employments, would appear such, as might even elevate his character, and give it additional lustre. But fearful lest the partiality, which the veneration of an individual entertained for his character, might bias his judgment, and excite an over officiousness in communicating to the public, what that public might not place in the same favourable point of view; he has been induced to do violence to his own feelings, rather than subject himself to the censure of doing any thing that could possibly tarnish the character of a man, who passed through life with unfulfilled reputation, and died in the zenith of glory.

Whilst the Editor thus avows his diffidence, and the cause of that diffidence, they, whose sentiments of posthumous character coincide with his own, will be the last to censure him for this consideration: he is, however, gratefully prompted to acknowledge the important communications, and the kind assistance of many respectable individuals; and particularly, of David Barclay, of Youngsbury; Dr. Cuming, of Dorchester; Joseph Cockfield, of Upton in Essex; Thomas Collinson, of Southgate; Dr. Dobson, Dr. Falconer, and Dr. Anthony Fothergill, of Bath; John Nichols, Printer of the Society of Antiquaries; John Payne, Accomptant General of the Bank of England; Thomas Pennant, Esq; the British Linnæus; Dr. Percival, of Manchester; Henry Smeathman, Author of the History of the Termites; Dr. Whitehead, of London, particularly for his assistance through the whole edition; Dr. Zouch, an eminent Clergyman and Justice of the Peace, of Sandal in Yorkshire; and of the Family of the Deceased, as well as of the Relations of the late Dr. Russell.

C H R O N O -

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SOME ACCOUNT

OF THE LATE

JOHN FOTHERGILL, M.D. F.R.S. &c.

For my own part, when I recollect what I have lost in him, the sensible, firm, and upright friend, the able, honest, and experienced physician, the pleasing instructive companion of a social hour, expression fails me.

FOTHERGILL'S LIFE OF RUSSELL.

Amisi enim, amisi vitæ meæ Testem,
Rectorem, Magistrum.

PLIN. SEC.

S O M E A C C O U N T
O F T H E L A T E
J O H N F O T H E R G I L L , M . D . F . R . S . & c .

Read before the MEDICAL SOCIETY of LONDON, July 17, and October 23, 1782.

THOUGH the admiration which an elevated character excites, may be diminished by familiar intercourse; yet that affection which virtue begets, and that respect which mental superiority inspires, are as permanent as the causes which produced them. You, Gentlemen, who so lately enjoyed the conversation of our late President, will call to mind the dignity with which he conveyed easy communication that never tired, because it always improved; and regret, with painful recollection, that our honoured associate is no more!

But he that feels the loss of a friend to whom he owed the obligation of useful instruction, or remembers the salutary aid that renewed the vigour of health, or that generosity which averts the misery of families and individuals, naturally wishes, and wishes with ardour, to revive in the page of history, those virtues which were incessantly directed to the advantage and happiness of mankind. In attempting before you this grateful task, whilst I feel with concern how unequal my abilities are to my own wishes, or may be to your expectations, I trust to your indulgence, where biographical relation must be so inadequate to the zeal of friendship.

JOHN FOTHERGILL, the father of the deceased physician of the same name, was born in Wensleydale, in Yorkshire, in the year 1676, and was a member of the religious society now generally denominated Quakers. He resided at Carr-End, the family estate of a preceding generation, where our late President Dr. JOHN FOTHERGILL was born, on the eighth of March 1712: he was one of many children; though not the only one, who in early life exhibited instances of genius and superior understanding.

His mother was the daughter of Thomas Hough, a person of fortune, who resided near Frodsham, in Cheshire, from under whose care he was placed at school in the same town, where he continued till his twelfth year, and was afterwards removed to Sedberg School, in Yorkshire, then and since famous for classical literature and mathematics. That his progress here was considerable, I may safely assert; as the late Gilbert Thompson, near Warrington, whose memory I have many motives to value, and whose learning and judgment no person who has been under his tuition can doubt, told me, that he was his school-fellow, and in the same classes, but that he never was able to rise above him, though constantly excited by emulation to obtain that superiority.

About his sixteenth year, when his school education was finished, he was placed with Benjamin Bartlett, an eminent apothecary at Bradford, in Yorkshire; who before had been the tutor of Dr. Hillary, and since of Dr. Chorley; and whose amiable manners and exemplary conduct had conferred upon him the character of a good man, whilst his medical abilities and instructions had rendered his house the seminary of many distinguished physicians.

The youth, who was destined at a future time to become one of the first physicians of the age, soon afforded such instances of superior sagacity, as induced his intelligent master to permit him, at an early period, to visit and prescribe for his patients; and this he did with so much approbation, that his contemporaries in that neighbourhood have always spoken, in terms of respectful recollection, of his assiduity and practical success.

When his apprenticeship expired, he removed to Edinburgh, to study
physic

physic in the colleges of medicine, prior to his settling in the country as an apothecary, in which capacity he was originally designed to act. At this time the professorial chairs were filled with the Doctors Monro, Alston, Rutherford, Sinclair, and Plummer, all of whom had issued from the Boerhaavian School, and whose eminent abilities their pupil lived to commemorate, in his "Account of the Life of the late Dr. Ruffell," at this early period his fellow student and intimate associate.

The first of these professors, that great anatomical oracle, Monro, attended to his numerous pupils with so much sedulous care, as justly denominated him the Father of the College; and no man knew better how to discriminate the genius of his pupils. Dr. FOTHERGILL early caught his attention, in whom he discovered such powers of mind, as promised the most fertile expansion in maturity, and induced the venerable master to urge his pupil to enlarge their cultivation by a longer residence at the university than was at first proposed. He that is born with genius, and an inclination to attempt great things, is generally endowed with vigour of mind to perform them:

—*Possunt, quia posse videntur**. VIRG.

Great natural powers, however, are often combined with great diffidence, which was certainly the situation of Dr. FOTHERGILL at this time, who has often told me, that his opinion of his own abilities was such as reconciled his mind to move in a more subordinate sphere. It may therefore be primarily attributed to the discernment of this eminent professor, that his pupil was at once destined to occupy a higher station, to redeem apparent victims of disease by his skill; and he survived long enough to see that he had not made a false estimate of his genius, while his industry of application, and ardour after instruction, tended to confirm the professor's sagacity; for as he advanced in knowledge, he found daily excitements to further progress.

At this period some of the professors delivered lectures in Latin, and others in English. Dr. FOTHERGILL adopted a method of im-

* For they can conquer, who believe they can.

DRYDEN.

proving

proving upon both, which it may not be improper to mention here: it is what he has since recommended to me; and whoever follows his example, will be apt to recommend it to others; for much is due to him who first breaks the way to knowledge, and leaves only to his successors the task of smoothing it. He took notes of the heads of each lecture, and on his return to his lodgings, he translated those into Latin which had been given in English, and then carefully consulted and compared the opinions both of the ancients and moderns upon the subject of the lectures, with the lectures themselves; after which he added such remarks on each, as his reading and reflection furnished: by this means he gained a knowledge of the ancients, as well as the moderns; he enlarged his ideas, and acquired the early habit of examining opinions, and discriminating between those merely speculative, and those which resulted from fact and experiment;—in a word, he hereby necessarily acquired new powers of reflection, and an increased energy of judgment*.

A mode, not dissimilar, he followed in his studies: when any medical case occurred worthy of remark, and there are few cases but to a student of medicine are important, he examined various authorities upon the same subject, and from these combined means drew a comparative result: what he had adopted with so much success, he recommended many years afterwards, in an epistolary address with which he condescended to favour me†, wherein he concludes with recommending the “careful perusal of Hippocrates, and also of Aretæus and Celsus; one can never,” he adds, “be too well acquainted with the knowledge contained in the first, nor with the elegant expressions of the last.”

Soon after he had finished his studies at Edinburgh, the celebrated professor I have already mentioned, who was completing the fourth edition of his great work of Osteology, which has ever since been deemed the most perfect performance in this branch of anatomy, and whose genius led him to enliven his subject with ample reflection,

* This relation I had from the Doctor himself; and since his decease, I saw his *Materia Medica Lectures*, which were sent to me by my ingenious friend J. Cockfield, of Upton.

† Letter to the Editor.

and various philosophical and practical facts, apprized of the inquisitive spirit of his pupil, not only condescended to ask, but to adopt his opinions in some instances. It must have been highly grateful to the Father of the college, to see the rays which had issued from his mind, thus reflected with encreased emanation *.

We see not unfrequently ingenious youths, diverted by the ardour of imagination into irregularities, which length of time, and the strength of mature reason, with difficulty correct; but in the present subject of biography, we search in vain for the season of youthful indulgence: as he adopted by his conduct, so he claimed an hereditary portion of his father's virtues, and has left us to judge of his youth, by numbering his years, rather than by recounting his pursuits †.

It was in the year 1736 that he graduated at Edinburgh, and printed his Thesis "de Emeticorum usu;" soon after which he came to London, and attended the practice of St. Thomas's hospital. Here he was at once furnished with the most ample opportunities of examining the doctrines of the schools, by a series of facts drawn from disease and dissection; and I have heard it related by some of his contemporaries, that his application here was unremitting, and his remarks on the cases were often listened to by his seniors. Objects of poverty have all those

* The first edition of Monro's Osteology was printed in the year 1726; a second edition was given to the public in 1732, and a third about six years afterwards: it was the fourth edition, which appeared in 1746, that he referred to Dr. FOTHERGILL; and I am informed that he paid the same respectful compliment to Dr. Cuming, and gratefully acknowledged the assistance these intimate friends afforded him.

† Besides his other useful engagements at Edinburgh, Dr. FOTHERGILL kept a diary of his actions, and of such occurrences as happened to him, in classical Latin, as I have been informed by a gentleman who once had a glimpse of it, on the following occasion: The Doctor requested his company in a visit to one of the professors, with whom he was more particularly acquainted; they breakfasted with the professor, who received them in an easy and gracious manner, as they went to *hear*, and left the choice of the conversation in a great measure to the professor, who was chearful, in good spirits, and talkative; but the principal part of his conversation consisted of some lively entertaining adventures, that beset him while he was a student of London, Paris, and Leyden. The gentleman saw the insertion of this visit in the Doctor's diary, in which his account of the professor's conversation was related in these few words, "*Multa dixit, non multa didicimus.*"

feelings

feelings alive, that can rightly estimate the assiduity and the sympathy of those to whom they look up for succour; they are equally jealous of apparent neglect, and grateful of seeming tendernefs; and however unremitting the diligence of the Doctor might have been, his humanity to the poor was still more conspicuous to them: to be diligent was his interest, to be humane was the spontaneous effusion of a good heart: this the patients saw and felt; and when he left the hospital, he soon experienced the pleasing confirmation of their decision.

However dark some may represent the propensities of mankind, ample knowledge of the poor has confirmed me in an opinion, that they are less inclinable to complain of injuries, than to acknowledge obligations: private injuries affect individuals, and mankind are more addicted to hearken to the relation of general good, than partial evil; and his humanity having become a subject of discussion to the miserable tenants of a sick ward, such as were discharged, not quite restored to health, found the way to the house of this amiable physician. Comfort of mind is a powerful restorative to a weakened constitution, and he who divides our miseries by his sympathy, proportionally adds to our consolation. Change of air, doubtless, contributes much to restore the fibre that has been debilitated by grief, penury, and sickness; and the same gratitude which impels the mind to dwell on virtuous rather than on vicious actions, would determine the eye of gratitude to him, who last saw us emerge from misery; to him is attributed all the merits of his predecessors, as the artist who casts the metal is less valued than him who polishes its surface.

*Ὁ ἄνθρωπος ἐνεργέτης πεφουώς **.

ANTONIN. Lib. ix.

It is, however, certain, that the poor who applied to him for relief, were loud in proclaiming the success of his practice, and gradually raised him to more lucrative employment. I mention this source of his early introduction, because Dr. FOTHERGILL himself has often told me how much he was indebted to this class of grateful though penniless supplicants; and in his turn he acknowledged the obligation,

* Man is naturally beneficent.

by

by humanely continuing to give advice gratis to the poor, as long as he lived, long after their suffrages could tend to elevate his reputation : his persevering benevolence could then alone be actuated by the innate goodness of his heart.

About this time, before he could have been established in any degree of general practice in his profession, he was solicited to accompany a few friends in an excursion to the Continent ; they were persons of too many engagements at home, to admit of long residence in any one spot, and consequently could not possibly acquire an extensive or accurate knowledge of the places they visited in the compass of this excursive tour. I am persuaded, however, that it was not fruitless ; for long afterwards, when I was in company with the Doctor, a gentleman who was concerned in the conveyance of some merchandize through Germany, was desirous of knowing the communications by land and water, the inland duties, and other particulars ; to which he replied with a precision and detail, that evinced the inquisitiveness of the traveller, and the useful manner in which he had employed his moments. Of the parts traversed in this excursion, the Doctor, on his return, communicated an account to his friend Dr. Cuming of Dorchester, in a Latin letter *, which the latter entrusted to me ; and these places are enumerated in so concise and classical a manner, that I have taken the liberty to adopt the language of the original on this occasion :

“ ‡ Luſtratis aliquibus *Flandriæ* urbibus munitiffimis, per magnam
 “ *Brabantiae* partem migravimus ; relicto quippe *Gandavio*, ad *Bruxel-*
 “ *lensem* ſpatioſam ſplendidamque urbem noſmetipſos contulimus, per
 “ oppidulum olim valle et muro vel potius aggere munitum, nomine
 “ *Aſk*, (*Iſca*) notiſſimum quidem *Brabantiae* incolis, quoniam exindè
 “ primò Lupulos, horumque colendi modum mutuati ſunt *Angli*, in
 “ maximum

* Dated London, anno 1740.

‡ Having examined ſome well-fortified cities of Flanders, and travelled through great part of Brabant ; leaving Ghent, we paſſed on to Bruſſells (a ſpacious ſplendid city), through a little town called Aſk, formerly fortified with a mote and wall, or rather a bank of earth : it is well known to the inhabitants of Brabant, becauſe the Engliſh had their hops firſt from this place, and here learnt the method of cultivating them, to the

“ maximum totius *Brabantiae* damnum; utpote olim in hoc mercaturæ
 “ genere fatis celebris. A *Bruxellis* itur ad *Leodiam* hodie *Liege* An-
 “ glorum, *Luttich* Germanorum, incolarum vero *Luich*, urbem ob arcis
 “ obsidionem diuturnam fatis celebrem, deinde ad oppidulum *Spadanum*
 “ et *Aquisgranum*, loca quidem toto orbe notissima. Ibi aquas mine-
 “ rales, hic thermæ potavi, gustavi, aliqua institutus sum experi-
 “ menta, sed vulgaria quidem, ob defectum apparatus ad hanc rem
 “ idonei. Trajectum ad *Mosam*, *Sylvam Ducis* (*Bois le Duc*,) *Dor-*
 “ *drechtum*, iter ad celebre emporium *Rotterdamum* tenentes, visitavi-
 “ mus; urbem *Delfhensem*, villam splendidissimam *Hagensem*, urbem
 “ *Leydam*, *Haerlemam* pertransivimus ad nobilissimam Batavorum civita-
 “ tem *Amstelodamum*; urbe deinde perlustratâ, per fretum vulgo dictum
 “ *Dee Zuyder Zee* navigamus ad oppidum dictum a Batavis *Worcum* in
 “ *Westfrisia*, distans viginti præter propter milliaria a *Leuwardia*, nitidâ
 “ fatis et bene munitâ hujus provinciæ urbe primâ.

“ Hinc tendimus ad *Groningam*, et demum per arenosas incultasque
 “ regiones, per que urbem *Oldenburgum*, et villam unam alteramque
 “ longe a se invicem distitam accedimus ad liberam civitatem *Bremen-*
 “ *sem*, celebre fatis emporium atque dives: hinc in cella sub templo
 “ maximo cathedrali, corpora aliquot exsiccata, (humana intellige),
 “ dura firmaque, naturâ conservata, peregrinantibus ostenduntur, nullo
 “ condimento

great loss of the whole country, which was formerly famous for this branch of com-
 merce. From Brussels we went to Liege, called by the Germans Luttich, but by the in-
 habitants Lüich, a city celebrated for the long siege of its castle. From hence we passed
 on to the Spa and Aix la Chapelle, places known to every one. At the first of these
 I observed the mineral waters, and at the latter the hot springs: I drank of them, and
 made some experiments upon them, common ones indeed, for want of a proper apparatus.
 We next visited Maestricht, Bois le Duc, Dordrecht, and continued our journey to that
 celebrated emporium Rotterdam. We passed through the city of Delft, the Hague, a very
 splendid village, the cities of Leyden and Haerlem, to the most noble of the Dutch cities
 Amsterdam. Having taken a view of it, we sailed through the strait commonly called Dee
 Zuyder Zee, to a town called by the Dutch Worcum, in Westfriesland, distant about
 twenty miles from Leuwarden, the first city of this province, neat and pretty well fortified.

From this place we went to Groningen, and travelling through a sandy, uncultivated
 country, we came to Oldenburgh, and passing through several villages a good distance one
 from another, we came to Bremen, a free city, a great emporium, and wealthy: here they
 shew to travellers, in a cellar under the great cathedral church, some human bodies, dried,
 hard and firm, preserved by nature, and the mere antiputrescent quality of the cavern, with-

out

“ condimento vel arte qualibet tractata, sed merâ quæ cellæ insit virtute
 “ conservatrice; est locus non admodum profundus, et ex uno latere
 “ vento perflabilis, sicca est admodum, tota quippe circumcirca regio
 “ arenosa est. Sed licet plurimæ aliæ sunt sub eodem templo hujus-
 “ modi cavernæ, et etiam sub aliis et vicinis templis, nulla adhuc
 “ invenitur quæ eâdem dote potitur. Corpora circa duodecem habent
 “ integra, ex quibus unum ducentos circiter annos habet; alterum,
 “ centum et quinquaginta, reliqua, diversarum ætatum et temporum;
 “ penitus ex succa videntur et levia, firma tamen adeo ut impositâ sub
 “ capite manu totum corpus absque minima flexura facile possis erigere.
 “ Magnam nitri copiam causam esse asserunt incolæ, quod in tanta
 “ quantitate erui potest, ut singulæ libræ terræ hujus cavernæ exhi-
 “ bent uncias duas nitri purissimi *.”

This epistle contains reflections equally pertinent and ingenious, on the manners of the people whom he visited; and concludes with just and animated praises of mental liberty, and the most cordial professions of friendship for his correspondent.

After this excursion on the Continent, he returned to London, and took up his residence in Gracechurch Street; we may therefore date the commencement of his practice in the year 1740, for though he graduated in 1736, the intermediate time was chiefly employed in attending the hospitals, and laying that foundation, upon which was afterwards to be raised a distinguished superstructure. His Thesis, as it was never before the present time translated into English, with all the merit it certainly possesses, could not excite the public attention, or acquire popular

out any preparation or assistance from art whatever. The place is not very deep, is exposed to the wind on one side, and exceedingly dry, as the whole country round about is sandy. But, although there are similar caverns under the same church, and also under other neighbouring churches, none has yet been found, that possesses the same virtue. There are twelve whole bodies compleat, one of which is about two hundred years old; another, one hundred and fifty; the rest are of different ages: they seem perfectly dry and light; but so firm, that, placing the hand under the chin, one may easily raise up the whole body, without the least flexure in any part. The inhabitants say, that the great quantity of nitre is the cause of these phænomena, which may be dug up in such plenty, that every pound weight of the earth of this cavern contains two ounces of the purest nitre.

* Since more fully enlarged upon by Wraxall, in his Travels.

approbation, and consequently could not materially contribute to extend his reputation: the same might be admitted respecting his “Remarks on the neutral Salts of Plants, and on Terra Foliated Tartari,” published in the same year in the Edinburgh Medical Essays, as subjects merely restricted to medical disquisition.

In 1744, his “Essay on the Origin of Amber,” and his “Observations on the Manna Persicum,” were inserted in the Philosophical Transactions: and likewise, in 1745, his “Letter to Dr. Mead,” and his “Observations on a Case of recovering a Man dead in Appearance.” In the subsequent year he was admitted a licentiate of the Royal College of Physicians.

Men of great talents do not always employ them on temporary or popular subjects; but on the other hand, their works, like the precious metals, are not injured by their antiquity: the preceding performances were rather solid than brilliant; calculated rather to ensure future reputation, than present emolument; and will be read now with as much pleasure as when they were first published. What he endeavoured to prove, to illustrate and enforce, respecting the recovery of drowned persons, has been since attempted in most maritime states of Europe; and he enjoyed the pleasure of living to see those rules adopted with success in this metropolis, by the ardour of Dr. Hawes and others; which upwards of thirty years before he had recommended by his pen. To whatever merit these Observations were justly entitled, the subject at that time excited no popular attention, though since prosecuted with a zeal that does honour to humanity; it could not, therefore, have contributed, in any considerable degree, to elevate his character; yet at this time he had acquired a large share of employment in his profession, and his emoluments were then superior to what many physicians of long standing at this time can boast. He was ever averse from speaking of the pecuniary emoluments of his profession; and excepting what he intimated in the present instance, he never, to my recollection, mentioned the subject; and upon this occasion it was collected from collateral circumstances, and not from immediate information. Nothing hurt his feelings more, than estimating the profession of physic by its lucrative advantages; the art of healing, he considered
in

in that sacred point of view, which connected it with a conscientious principle of action. "My only wish," he declares, "was to do what little business might fall to my share, as well as possible; and to banish all thoughts of practising physic as a money-getting trade, with the same solicitude, as I would the suggestions of vice or intemperance*." And when the success of his practice had raised him to the summit of reputation and emolument, he seemed actuated by the same sentiment: "I endeavour," says this conscientious physician, "to follow my business, because it is my duty, rather than my interest; the last is inseparable from a just discharge of duty, but I have ever wished to look at the profits in the last place, and this wish has attended me ever since my beginning†."

If this language is foreign to the man of the world, it is at least worthy of a man of principle; and no physician will be worse for its perusal or imitation, nor of what he afterwards communicated upon the same subject. "I wished at my first setting out," he observes, "I wished most fervently, and I endeavour after it still, to do the business that occurred, with all the diligence I could, as a *present duty*, and endeavoured to repress every rising idea of its consequences; knowing most assuredly that there was a hand, which could easily overthrow every pursuit of this kind, and baffle every attempt, either to acquire fame or wealth. And with a great degree of gratitude, I look back to the gracious secret preserver, that kept my mind more attentive to the discharge of my present anxious care for those I visited, than either to the profits or the credit resulting from it: and I am sure, to be kept under such a circumscribed un aspiring temper of mind, doing every thing with diligence, humility, and as in the sight of the God of healing, frees the mind from much unavailing distress, and consequential disappointment‡."

There are many incidental circumstances which tend to introduce a physician into practice, independent of any intrinsic merit, and religious profession is not one of the least: whoever acquires the foremost repu-

* Letter to the Editor, dated Lea-hall, anno 1769.

† Ditto, dated anno 1770.

‡ Ditto, dated anno 1773.

tation with the leaders of a sect, is by them naturally considered and proclaimed as the first of the medical profession at large; but as there were two physicians of the same religious sentiments with Dr. FOTHERGILL, previously settled in the metropolis, his early reputation could not be deduced from his religion; neither could family connexion operate in a stronger manner, because the residence of his relations was principally in the north of England. Whatever reputation is acquired, unconnected with literature or medical skill, is precarious at all times: if patients are not cured; if success does not follow practice; a specious importance acquired or supported by partial or superficial pretences, is seldom permanent. In concerns of such magnitude, where health and life are at stake, partial attachments will vanish, and a conviction of superior sagacity and skill will at length predominate. Whether we consider Dr. FOTHERGILL's early acquisition of reputation, or its future accumulation, we cannot hesitate to ascribe it to his superior merit, or to that singular combination of vigorous powers of mind, and chaste integrity of manners, which for a series of years conciliated the affections, and claimed the unreserved confidence, of the public.

Sunt verba et voces, quibus hunc lenire dolorem

Possis, et magnam morbi deponere partem. HOR*.

Highly flattering as his success must have been, at this early period, it bore very little proportion to that blaze of character which succeeded his "Account of the Sore Throat attended with Ulcers," published in 1748, and since deservedly translated into every European language. Not long before this time, the disease which he now elucidated, in its general havock in London, had swept away indiscriminately, the hopes of some noble families, and particularly the two sons of the late Henry Pelham, brother to the late duke of Newcastle, and had hence excited very general alarm; the discovery therefore of a new and successful treatment of so formidable and fatal a disease, was critically fortunate for the public, as well as for the author. Medical essays which promise improvements in the art of healing, are usually offered to the public

* The pow'r of words, and soothing sounds, appease

The raging pain, and lessen the disease.

FRANCIS.

in a state of imperfection, as long and repeated experiment is requisite to mature the offspring of a luxuriant genius; but this performance was exempted from the imbecillity of a hasty birth, and the revolution it produced in the treatment of this disease, has obtained the sanction of the ablest physicians from that period to the present time, with less deviation perhaps than has attended the management of any other acute disorder.

As the alarm among persons of fashion, long subsisted, the Doctor's reputation rapidly increased. Whoever astonishes the public with new discoveries upon any popular disease, the reputation of sagacity in every other, will be annexed. He was now introduced into the first families in the metropolis; and he was rarely ever employed, but in emergencies he was sought for again.

But whoever deviates from a routine of practice familiarized by long habit, will encounter opposition; or if truth is too brilliant to be eluded, that opposition takes the form of envy, armed on all sides with detraction; the discovery is anticipated by some previous description, or vague suggestion, which at the time gained no influence, nor deserved any attention. Such insinuations have been urged against the merits of the present performance, upon such a foundation indeed as does not deserve the trouble of refutation. The very general and almost invariable attribution of the discovery to Dr. FOTHERGILL, by his contemporaries, weighs with me much more forcibly, than the slight suggestion, that a physician had previously found out the disease, its symptoms and its cure, in writers, which are themselves obscure. Nobody could doubt the sagacity of Dr. Letherland; but beyond the obligation which Dr. FOTHERGILL has candidly acknowledged to him, I see no reason to detract from the merit of the latter, who uniformly, without reserve, always spoke of it as his own production; and without the consciousness of desert, no person that knew him, could be ignorant, that his modesty and his integrity would equally revolt at any unworthy plagiarism.

Had Dr. FOTHERGILL's Account of the Sore Throat been merely a publication of doctrines previously known and adopted, such a plagiarism must have been notorious to every medical man in the city; and

the performance which announced a supposed discovery, would have met with general contempt, instead of that éclat which it conferred upon the writer, and which suddenly swelled the current of his business, and consequently of his emolument: the first induced him to seek for some moments of retirement, and the last enabled him to effect it, as far as a physician in extensive practice could command moments of leisure. The natural bias of the mind is most apt to shew itself in a state of independence, when unrestrained by exterior concerns: in an active and multifarious genius, with which the Doctor was endowed, it would be difficult to ascertain his warmest excitements: individuals themselves are not always the most competent judges of the *cuique voluptas*; actions constitute a more certain criterion, and by this standard we may conclude, that he did not make a false estimate of his own propensities; as long before he was able to command that leisure which he never chose to allow himself, he observed, that “chemistry and natural history would be his entertainments, were he wholly at leisure; he could not, however, lose sight of the *cui bono*, in any researches: there is still room enough for discoveries; many points that we believe, rather than know; and some of these he could wish to determine by experiments*.”

In those departments of science, where fact alone depends upon the result of experiment, that leisure, that sedulous perseverance is demanded, which is incompatible with the sudden and unexpected avocations of a physician. In chemistry, where demonstration has superseded vague hypothesis, this studious attention is particularly requisite: however strong therefore, the Doctor's propensity to chemical researches might have been, the practice of medicine, and a judicious mode of prescribing, were not calculated to amplify its boundaries: this department of science was not then either so generally or so successfully cultivated: Hales, and other philosophers, had laid down a wide field for investigation, and experiments have been since multiplied, more particularly relative to medicine, diet, and the animal œconomy. The *Air* which we breathe, as one homogeneous fluid, was now analyzed by

* Letter to Dr. Cuming, dated London, anno 1744.

new experiments in the North; but it was reserved for a Priestley to develop the *Aerial System*, to embody shades invisible to former ages, and place them in systematic light: but long before this period of astonishing elucidation of air, Dr. FOTHERGILL had suggested experiments upon this really heterogeneous fluid: so early as 1744, he communicated to his friend Dr. Cuming*, not only his doubts respecting the real contents of the air, but the process of experiment he meant to institute. How far he pursued a design so worthy of an ingenious mind, I am uncertain; but the state of his health, which he afterwards introduces as an obstacle to his pursuit, and the increase of various avocations, probably terminated these enquiries. The method he proposed to adopt, he thus describes: " I have ordered some large glass bells
" to be made, but of a more conical figure, capable of holding several
" gallons: these in warm weather will be placed upon proper supports,
" the apex lowest, the broad open base above: the coldest water will
" be poured into them, and rendered still colder by sal ammoniac and
" sal communis; on the outside, the moisture of the air will be condensed in large quantities, and afterwards subjected to chemical
" analysis."

Although a natural bias for experiment, does not now appear in many instances of his chemical investigations, yet it obviously pervaded the whole composition of his prescriptions. It is well known, that the mere exterior surface of bodies is no criterion of their component parts, when analyzed by chemical processes: the most simple and innocent articles used in diet, consist of parts, which, developed and separated, become highly corrosive; culinary salt, applied to so many useful and dietetic purposes, contains, as well as nitre and common sulphur, an acid, which is destructive to the hardest substances: other combinations may be formed, of bodies inoffensive and inert in their distinct states, which on union, become noxious to animal life. Chemistry is hence absolutely requisite to form a physician, who must have daily reference to it in his practice: yet in this department of medicine, physicians are not unfrequently deficient; by which compositions have

* Letter dated London, anno 1744.

been recommended, and from thence combinations have resulted, which the prescriber neither proposed nor suspected. This was not the fate of Dr. FOTHERGILL; there was such a well-directed selection in all his compositions, as happily united simplicity, elegance, and utility; and as the influence of his practice extended, his mode of prescription was proportionally imitated in the metropolis, and at length so generally adopted, that I may hazard the assertion, that he principally contributed to bring about a revolution, that substituted elegant simplicity in the place of multifarious and discordant compound.

Materia Medica is that department of medicine most immediately allied to natural history, and to which he had devoted no little attention; having collected a cabinet of materia medica, seldom, if ever, exceeded for its extent or selection. He had even encouraged the idea of delivering lectures upon this entertaining and useful branch of medicine; but an encrease of employment, joined with a diffidence of his own abilities, which none but himself entertained, diverted him from this intention; and his valuable collection was generously presented to the college of Edinburgh, for the use of the public professor of Materia Medica in that university. The handmaid to this branch of medicine is Botany, a department of natural history, which affords the greatest instruction and recreation with the least exercise of the mind: it is, therefore, well adapted to the pursuit of a medical man, whose moments of seclusion are rather snatched from time by watchful diligence, than enjoyed from actual leisure.

As a rational means of unbending his mind, and affording at the same time collateral advancement in the healing art, Botany acquired his patronage. On the Surrey side of the Thames he had noticed a spot of land, the situation of which sheltered it from the severity of the north wind, and in the soil of which vegetables grew luxuriantly; its vicinity was convenient, and its extent rendered its purchase easy, as the proprietor was inclined to sell it: the price was stipulated, and one obstacle alone remained to make it his own; it was let to a tenant at will, whose little family subsisted on its produce, and whose misery was inevitable, had he expelled him from this fruitful soil: the moment he was made acquainted with the circumstances of the family, he refused the offer,

adding,

adding, "that that could never afford gratification to him, which entailed misery on another;" and when he relinquished this projected Eden, he made the family a present of the intended purchase-money, as I was informed by a relation of the tenant, and had it in part confirmed by the present proprietor.

Not far distant from this admired spot, he had afterwards a garden *, which he occasionally visited; but he never furnished it with that profusion of exotics which he since collected from every quarter of the globe, and introduced into his garden at Upton, near Stratford. The whole estate was extensive; the seat was formerly called Rooke-hall, from the name of the person who possessed it in 1566; and in 1666, it descended to Sir Robert Smyth, from whose family it was purchased, almost a century afterwards, by Admiral Elliot; and in August 1762 it became the property of Dr. FOTHERGILL †. The walls of the garden inclosed

* That learned physician and ingenious botanist Dr. William Watson, informed me, that a beautiful Acacia, formerly planted by Dr. FOTHERGILL, and one of the last remains of his horticulture there, was ignorantly cut down about two years ago.

† In the year 1762, when Dr. FOTHERGILL purchased of Admiral Elliot his estate at Upton, it consisted of the house, garden, and lands adjoining, to the amount of about thirty acres.

There were at that time growing in a part of the garden called the Wilderness, five large Virginia cedars, not less in diameter than ten inches one with another, and which were probably some of the first of the kind planted in England.

A year or two after, Dr. FOTHERGILL purchased of Peter Bigot, Esq; a parcel of land, extending from the premises bought of Admiral Elliot to the Ilford road; and in the same year began the plantation along the said road.

Not long after, viz. about the year 1764 or 5, he agreed with the proprietor of the large field called Lady Margaret's field, to the east of this new purchase, to run a straight line between their respective grounds; the old fence being no other than a broad sandy bank, and extremely crooked. When this was settled, and the fence made, a plantation was begun on that side, principally consisting of oaks of a very useful kind, the acorns of which were brought from the mountainous parts of Portugal, and the timber is thought to be second to none, in respect to durability.

Likewise some Spanish chestnuts, raised from the nuts, in a plantation upon the premises.

In the garden there was a fine bay hedge; and in the Wilderness, one side of which is inclosed by this hedge, some very large laurels. Excepting these, a Larch, an Acacia, and the Virginia cedars above-mentioned, some large Abeiles, and the fruit-trees against the walls, there was not one foreign plant or shrub in the whole garden.

inclosed above five acres of land; a winding canal, in the figure of a crescent, nearly formed it into two divisions, and opened occasionally on the right, through the branches of rare and exotic shrubs, that lined the walks on its banks. In the midst of winter, when the earth was covered with snow, evergreens were clothed in full verdure: without exposure to the open air, a glass door from the mansion-house gave entrance into a suite of hot and green-house apartments of nearly 260 feet extent, containing upwards of 3,400 distinct species of exotics, whose foliage wore a perpetual verdure, and formed a beautiful and striking contrast to the shrivelled natives of colder regions. In the open ground, with the returning summer, about 3,000 distinct species of plants and shrubs vied in verdure with the natives of Asia and Africa. It was in this spot that a perpetual spring was realized; where the elegant proprietor sometimes retired for a few hours, to contemplate the vegetable productions of the four quarters of the globe united within his domain; where the spheres seemed transposed, and the arctic circle to be joined to the equator*.

*Et nunc omnis ager, nunc omnis parturit arbos,
Nunc frondent silvæ, nunc formosissimus annus.*

VIRGIL.

But

Whatever there is in the garden, or adjoining fields, of this kind, were planted by Dr. FOTHERGILL, soon after these grounds came into his possession: which circumstance is here mentioned for no other purpose, but that if this memorial should be preserved, it may be known to a succeeding generation, what progress the several shrubs and trees have made.

Some of the trees were not less than fifteen feet high when they were planted; especially those on the west side of the field adjoining to the garden.

The large trees, among which are many rare oaks, were brought out of the first great nursery of North American trees in England at Fulham, belonging to — Gray, an eminent gardener; and the first who, being assisted by Peter Collinson, Mark Catesby, and other curious collectors, supplied England with the vegetable treasures of America.

* The president of the Royal Society, who has circumnavigated the globe, and is acquainted with most of the gardens in Europe, speaks of Dr. FOTHERGILL's in the following manner.

“ At an expence seldom undertaken by an individual, and with an ardour that was
“ visible in the whole of his conduct, he procured from all parts of the world a great
“ number

But in the midst of this enchanting combination of nature, he never lost sight of the *cui bono*: “ In these, as in every other pursuit, he
 “ had always in view the enlargement and elevation of his own heart;
 “ having formed early habitudes of religious reference, from the display
 “ of divine power and wisdom in the beauty, the order, and the har-
 “ mony of external things, to the glory of their Almighty Former.—
 “ From the influences of these habitudes, his mind was always preserved
 “ in a disengaged and independent state, enjoying, but yet adoring *.”

“ number of the rarest plants, and protected them in the amplest buildings which this
 “ or any other country has seen. He liberally proposed rewards to those, whose circum-
 “ stances and situations in life gave them opportunities of bringing hither plants which
 “ might be ornamental, and probably useful to this country, or her colonies; and as
 “ liberally paid these rewards to all that served him. If the troubles of war had permitted,
 “ we should have had the Cortex Winteranus, &c. &c. introduced by his means into this
 “ country; and also the Bread-fruit, Mangasteen, &c. into the West Indies. For each of
 “ these, and many others, he had fixed a proper premium. In conjunction with the Earl
 “ of Tankerville, Dr. Pitcairn, and myself, he sent over a person to Africa, who is still
 “ employed upon the coast of that country, for the purpose of collecting plants and
 “ specimens.

“ Those whose gratitude for restored health prompted them to do what was acceptable to
 “ their benefactor, were always informed by him that presents of rare plants chiefly
 “ attracted his attention, and would be more acceptable to him than the most generous
 “ fees. How many unhappy men, enervated by the effects of hot climates, where their
 “ connections had placed them, found health on their return home at that cheap pur-
 “ chase!

“ What an infinite number of plants he obtained by these means, the large collection
 “ of drawings he left behind will amply testify; and that they were equalled by nothing
 “ but royal munificence, at this time largely bestowed upon the botanic gardens at Kew.
 “ In my opinion, no other garden in Europe, royal, or of a subject, had nearly so many
 “ scarce and valuable plants.

“ That science might not suffer a loss, when a plant he had cultivated should die, he
 “ liberally paid the best artist the country afforded to draw the new ones as they came
 “ to perfection; and so numerous were they at last, that he found it necessary to em-
 “ ploy more artists than one, in order to keep pace with their increase. His garden was
 “ known all over Europe, and foreigners of all ranks asked, when they came hither, per-
 “ mission to see it; of which Dr. Solander and myself are sufficient witnesses, from the
 “ many applications that have been made through us for that permission.”

Sir Joseph Banks's Note in Dr. Thompson's Memoirs of Dr. FOTHERGILL, p. 37.

* Dr. Hird's Affectionate Tribute to the memory of Dr. FOTHERGILL, p. 13.

In the superficial cultivation of many departments of natural history, expence is often lavished without benefit either to the collector or to the public, where the object is rather to gratify curiosity than to augment and diffuse knowledge: in the enjoyment of horticulture, the mind that was elevated to sublime contemplation, could not be restrained by the partial motive of a mere collector; and he that in his pursuits enlarges his speculation to the *cui bono*, will never want ample occasions of promoting general good in the study of vegetable nature, which teems with so many blessings to mankind: whoever considers the importance of clothing, of household furniture, and of his daily bread, cannot but view it as one of the most useful, and consequently one of the most rational pursuits of an enlightened understanding. Of this we shall be convinced, if we reflect what benefit would accrue to mankind, could another dietetic article like the common potatoe be discovered! How great a benefactor to his fellow-creatures would that man prove, who should find out another grain like wheat, or pulse like the common pea! or an article of clothing and manufacture superior to cotton or flax!—Such considerations influenced Dr. FOTHERGILL; and where he could not produce objects of equal importance, he exerted himself to accomplish others of less, yet of great public utility. What he effected, and what he contributed to do, would fill a volume, were a grateful biographer to enlarge upon them: he pointed out what would suit different soils, and formed a balance in the productions of the globe: from America he received various species of Catalpas, Kalmias, Magnolias, Firs, Oaks, Maples, and other valuable productions, which became denizens of his domain, some of them capable of being applied to the most useful purposes of timber; and, in return, he transported green and bohea teas from his garden at Upton, to the southern part of that great continent, now rising into an independent empire: he endeavoured to improve the growth and quality of coffee in the West India islands; the Bamboo cane (*Arundo Bambos*) calculated for various domestic uses, he procured from China, and purposed to transplant it to our islands situated within the tropics. The last time I was with him at Upton, I introduced Governor Nugent, who deservedly possessed the chief administration of Tortola, to whom he expressed the pleasure
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he should experience in being the means of furnishing the Caribbæan Archipelago with this useful Asiatic; the very shoots of which were marked for this design. The elegant vegetable is now in my possession; and I recollect with grateful pleasure, as often as I see it, the wish of its former proprietor, hoping, when the tumult of war shall have subsided, to carry his design into execution*.

The Nutmeg-tree now flourishes in the Isle of France, and Clove-trees have been transplanted from thence to Cayenne†. The true Cinnamon is a tree we have not hitherto been able to cultivate out of Asia, though the Doctor used many endeavours to introduce it into our West India colonies. The *Canella cinnamomæa* I had from his garden; and the true cinnamon-tree would have arrived here in health, had not the alarm of an enemy's ship induced my friend to throw it overboard, with other articles designed as a present: the war, however, may ultimately extend the cultivation of these exotics, which, like the inhabitants of a seraglio, are cautiously excluded from the eye of strangers‡.

Intent as he was to promote so many articles of commerce, manufacture, and convenience, he could not lose sight of those departments of natural history, which were more immediately connected with medicine, in order to ascertain the knowledge of what was already acquired, and to expand it by experiment where deficient. Though he was not the first who administered Hemlock internally, he was the first who accurately discriminated its virtues: by him we were made acquainted with the *Gummi rubrum astringens Gambiense*; and by his endeavours, and the ardour of minds similar to his own, we know that Terra

* Since I penned the above sentence, I have been informed that the Bamboo cane has been transplanted to Jamaica, where it thrives luxuriantly, and has been already applied to many useful purposes.

† Dr. Jussieu obligingly informed me, by letter, of the circumstances respecting the nutmeg and clove trees.

‡ I am indebted to Dr. Vicq D'Azyr, and Dr. De Jussieu, for information on this subject, that Cinnamon has been transplanted to the French West India islands, and particularly to Guadaloupe, where it is greatly increased: (*Le Cannelier, transplanté depuis long-temps dans les isles d'Amerique, et sur-tout à la Guadaloupe, s'y est très multiplié.*) It grows likewise in St. Vincent's.

Japonica is a vegetable extract *; and to him and Dr. Russell we are indebted for the flourishing of genuine Scammony † in our soil, as if indigenous to it. He attempted to procure the tree which affords the Peruvian bark ‡; and is said to have at length so far succeeded, as to have had one plant in his garden, but which I believe died with its possessor. This invaluable tree, which is so common in Peru and Chili, would doubtless thrive on the North American continent, and in the larger West India islands; it is perhaps already indigenous to the mountains of Jamaica §; and by successive endeavours it may hereafter be cultivated in the colonies of different European states: we have seen in how short a period of time the true Rhubarb (*Rheum palmatum*) has been naturalized to our soil, furnishing us at home with so important an acquisition to the *Materia Medica*. If we have not already cultivated it so successfully as to rival the foreign, it is at least nearly equal in medicinal qualities; and future experiments may enable us to supply all our own consumption. Much depends upon the nature of the soil, and much upon the manner of drying the root after it has been taken up: to promote its growth, and the improvement of its quality, Dr. FOTHERGILL carefully exerted himself; and his directions respect-

* Since Dr. FOTHERGILL's decease, I have received seeds of the true *mimosa Japonica*, or tree producing *Terra Japonica*, and have distributed portions of them to several eminent botanists in different parts of Europe, as well as placed some in my hot-house at Grove-hill. They were sent by Dr. Kerr, an ingenious physician resident at Calcutta.

† Dr. FOTHERGILL observes, that with no small trouble Dr. Russell succeeded in procuring us the seeds of the true Scammony. They were raised by my two botanical friends, the late Peter Collinson, and the indefatigable James Gordon. Seeds were likewise sent over to the southern colonies of America, in hopes that in a similar soil and latitude, in some future time we might from thence have this valuable drug unadulterated. *LIFE of Dr. RUSSELL*, p. 15.

‡ He likewise offered a premium of one hundred pounds each to two captains of ships, for a plant in vegetation of the true Winter's Bark, (*Winterana aromatica*.)

§ A friend of Dr. Clarke's, of Jamaica, (Alexander Roberts) has lately found a species of the *Cinchona* with racemose flowers, very similar to those of the *Cinchona Caribæa* of Jaquin and Linnæus, and to the *Cinchona Jamaicensis* of Dr. Wright, described in the *Philosophical Transactions*, vol. lxxvii. p. 504. In the year 1781, a periodical publication, entitled the *Jamaica Magazine*, commenced; and in the third, fourth, and fifth numbers, the *Jamaica Cinchona* is particularly described.

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ing the method of drying it, I shall give in his own words : “ There
 “ is one circumstance, relative to the drying of this root, that I have
 “ long thought of, and if not practised, would recommend to those
 “ who cultivate this article.

“ The large holes which we commonly meet with in the Turkey
 “ Rhubarb, are not the effect of accident, but design : they are ab-
 “ solutely necessary ; for, by opening a passage for the air to the center
 “ of these pieces, they not only dry sooner, but retain their colour,
 “ and perhaps their medicinal virtues, the better.

“ After having washed, and cut the root into large pieces, let a
 “ large hole be bored through the center with some instrument that
 “ makes a large excavation. Let a rope of well-dried rushes, or straw,
 “ as large as the cavity will receive, be instantly drawn through it :
 “ this will prevent the drying root from contracting, whilst the
 “ porous rope admits the air to pass through, and carry off the central
 “ moisture. Several pieces may be hung up together, taking care
 “ that they do not come into contact ; and I should think (though
 “ experience must determine this) that it would be best to take
 “ up the roots, when the leaves early in autumn die away, rather
 “ than in the spring : they will be less succulent in autumn, but
 “ their pieces will be more active and efficacious *.”

A man

* Letter to Dr. Falconar, of Bath. The public is, however, highly indebted to the amiable Dr. Hope, professor of botany in the college of Edinburgh, for his introduction of Rhubarb into these kingdoms. See *Philos. Transact.* art. xxxii. vol. lv. ann. 1765. This distinguished professor informs me†, that he is of opinion, and his opinion on such a subject no one will doubt, that the *Rheum Palmatum* is the same with the Russian, which formerly was called the Turkey Rhubarb ; and differs so much in its sensible qualities from the China Rhubarb, as to induce him to think with Sir Joseph Banks that they are different species. The farina of one species, operates upon the seeds of another, and thereby produces high-bred plants, which hitherto have not produced fertile seeds in the botanic gardens in Scotland, where the experiment has been made.

“ At first,” observes the professor, “ depending on the information received from books,
 “ we kept the root ten or twelve years in the ground, and thought that the longer we kept
 “ it so, the better quality would the Rhubarb possess ; but experience has taught us, that
 “ the root should not remain above four years in the ground. The Rhubarb of this

† Letter to the Editor, dated Nov. 18, 1782.

A man of science, confined by a local profession, like the practice of physic, which occupies the most precious moments of time, may suggest more to others, than he can himself have an opportunity to effect; but, like the genial rays of the sun, his influence may extend to the most remote regions of the globe: and thus it was that Dr. FOTHERGILL promoted the investigation of Nature, and excited enquiries after her curious productions, as far as navigation and commerce had diffused arts and sciences. Men of more genius than fortune found in him a liberal patron; he contributed to support them while they explored distant regions, and amply rewarded their discoveries. As he studied most departments of natural history, as he patronized its ingenious cultivators, he necessarily became possessed of a valuable collection of its rare objects: next to the Dukes of Portland, he had the best cabinet of Shells in the kingdom*; his collection of Ores and Minerals, dug out of different parts of the earth, were distinguished for their rarity rather than for their number. Of Reptiles and Animals, the gratitude of those he had patronized furnished him with a curious variety: in the same manner he became possessed of an elegant cabinet of Insects, which was greatly enlarged by the exertions of the ingenious Smeathman. His Corals, from whence Ellis, that indefatigable and microscopical naturalist, delineated his system, and created a new species of animal beings, was the foremost in Europe†. Those objects of

“country is equal in quality to the best Russian. As there is now scarcely a garden in Scotland without a Rhubarb plant in it, the consumption of the foreign Rhubarb is considerably less, and annually a small quantity is sent to London.

“The late Earl of Hopetoun made some interesting discoveries respecting its cultivation, and the late Duke of Athol had very large plantations of it.

“Sir Alexander Dick early received a gold medal from the Society of Arts in London, for producing the largest quantity of well-dried rhubarb.”

* The versatility of Dr. FOTHERGILL's genius was remarkable:—Few were acquainted with his accurate knowledge of Conchology, for he made no ostentation of it, and yet Da Costa is indebted to him for many important remarks in his ingenious History of Shells, and for most of the notes with which it is enlarged and improved. The MS. notes, in Dr. FOTHERGILL's writing, were presented to me by Da Costa himself, with a modesty which reflects additional credit upon this eminent naturalist.

† These and other curious subjects of natural history were purchased by Dr. Hunter for £. 1,500.

nature,

nature, which were too bulky to transport, or too perishable to preserve, he ordered to be delineated by the pencil of artists, that he might give bread to a set of ingenious men, whom he wished to partake of his beneficence, whilst he rationally gratified his own taste, and enlarged the boundaries of the knowledge of nature: of such elegant specimens, whose value it is difficult to estimate, he did not possess less than twelve hundred*; and his collection of English Heads, which included those purchased of the late John Nickolls†, formed a treasure in this particular department, which was perhaps inferior to none.

In

* These drawings were chiefly on vellum, by Ehret, Taylor, Harris, Miller, and Ann Lee, and were lately purchased for the Empress of Russia for 2,300 pounds.

† I am obliged to the ingenious antiquary John Nichols, of the same name, though no relation of the deceased, for the following communication, from his *Anecdotes of Mr. Bowyer*, not yet published. The tracts hinted at, are deposited in the Meeting in Peter's Court.

“ Mr. John Nickolls, F. R. and A. S. a Quaker, in partnership with his father of the same name, a capital mealman at Hertford, and of Trinity parish, near Queenhith, London. He was chosen F. A. S. Jan. 17, 1740; and possessed the esteem of a respectable number of friends, who were deprived of him by a fever, at the age of 34, Jan. 11, 1745. His remains were deposited in the burial-ground at Bunhill Fields on the 16th. Mr. Nickolls published “ *Original Letters and Papers of State, addressed to Oliver Cromwell, concerning the affairs of Great Britain, from the year 1649 to 1658, found among the Political Collections of Mr. John Milton; now first published from the Originals*‡; “ 1743,” folio, inscribed to Arthur Onslow, Esq. He was the first § regular collector of English Heads ||. His noble collection of about 2,000 Heads, four volumes in folio, and

‡ The originals of these Letters were long treasured up by Milton; from whom they came into the possession of Thomas Elwood, a person who for many years was well acquainted with, and esteemed by Milton. From Elwood they came to Joseph Wyeth, citizen and merchant of London; and from Wyeth's widow, they were obtained by Mr. Nickolls; after whose decease they were presented by his father to the Society of Antiquaries, as appears by their minutes.

§ Anthony Wood, in his account of E. Ashmole, tells us, “ In his library I saw a large thick paper book near a yard long, containing on every side of the leaf two, three, or more pictures or faces of eminent persons of England, and elsewhere, printed from copper cuts, pasted on them, which Mr. Ashmole had with great curiosity collected; and I remember he has told me, that his mind was so eager to obtain all faces, that when he could not get a face by itself, he would buy the book, tear it out, paste it in his blank book, and write under it from whence he had taken it.” An admirable portrait this of our modern portrait-collectors, who have sent back many a volume to the bookseller's shop stript of its graven honours. A most noted Collector told a person at Cambridge, who now and then sells a head, “ That his own collection must needs be large and good, as it rested on six points: 1. I buy; 2. I borrow; 3. I beg; 4. I exchange; 5. I steal; 6. I sell.”—Mr. Ashmole's book was consumed with the rest of his library.

|| See the virulent censure of Mr. Rowe Mores on this species of collectors: *Dissertation on English Founders*, p. 85.

xxviii SOME ACCOUNT OF THE LATE

In the practice of Physic, it is as difficult to command leisure, as it is to govern the voice of Fame; they both depend so much upon the opinion of the public, that the physician who expects to enjoy the former, or controul the latter, will meet with daily disappointment: to acquire popular reputation, however, there must be success, and when acquired, under the same circumstances, it must be continually accumulating. Sickness, which is always unwelcome, is not restricted to stated times; and, in like manner, the leisure of those whose profession it is to remove it, is uncertain; hence it was, that Dr. FOTHERGILL never could command that respite from employment, which was requisite to the relief of a mind so incessantly exerted. It may be observed in general, that the future is purchased by the present: “It is not possible to secure distant or permanent happiness, but by the forbearance of some immediate gratification.”

*Ad quæ non veniunt præsentis gaudia vitæ,
Nec currunt pariter capta, et capienda voluptas*.* PRUD.

It is true, that a physician of independent fortune, determined to indulge in leisure, may refuse the solicitations of his patients; but if there be not a principle of honour, which impels him to the exercise of his art when requested, there is of humanity; and this ever was a sufficient impulse to the Doctor to sacrifice his own gratification to the relief and happiness of the sick, and his health to that of his patients: this led him, as often as his friends requested him to contract his practice, to reply, “I cannot desert those who have once placed their lives in my hands; if I suffer, it is in my duty.”

fix in quarto, neatly let-in (which furnished Mr. Ames with his valuable catalogue), came soon after his death into the library of Dr. FOTHERGILL, who purchased it for eighty guineas. Dr. FOTHERGILL purchased likewise a pretty large collection of Tracts which Mr. Nickolls had picked up in his pursuit of Heads, written by those of his own persuasion from their first appearance; which the benevolent possessor has left to the Meeting to which he belonged, in Peter's Court, Westminster. Besides these collections, he had several views by great masters; some of which fell also into the hands of Dr. FOTHERGILL. The catalogue of his library, in his own hand-writing (including 332 volumes of tracts in folio, 4to. and 8vo.) is in the possession of Mr. Tutet.”

* For baffled mortals still attempt in vain,
Present and future bliss at once to gain. F. LEWIS.

But

But in the summer, there are much fewer residents in the metropolis, and in proportion still less sickness; prevented, therefore, as he was, by the mutual influence of his fame, and of his sensibility, from the enjoyment of any relaxation at Upton, (whither, if he went, messages frequently intercepted him) he chose to retreat, for a few weeks, at this salubrious season of the year, to Lea-Hall, in Cheshire, a seat belonging to the Leicester family, about 18 miles from Warrington, where two of his brothers resided in the year 1765, when he first sought this secluded spot. Two summers I spent with him here, and I never spent any with more advantage. Men who have sedulously attended to the profits of trade, and who by industry and penury are enabled to retire on their fortunes, are more generally objects of compassion than of envy: if they live, it is to themselves; for want of early and rational cultivation of the mind, they have acquired one solitary sordid idea, and when they have placed themselves out of the enjoyment of it, life becomes a burthen, and retirement painful. It was not so with Dr. FOTHERGILL; he had numerous important duties to discharge, which incessant occupation in town had obliged him to defer: here he attempted to lessen the applications of the wealthy, who followed him for his advice, by refusing any gratuity; they had it in their power to apply elsewhere: the poor he never relinquished; and in this place of retreat he devoted one day in the week, to attend at Middlewich, the next market-town, and to give his advice gratis to them without hesitation; when he sometimes favoured me in being the Amanuensis of what he dictated, and made me a witness of his philanthropy, as well as medical skill.

From his garden at Upton, he sent duplicates of plants to Lea-hall, and there revived and extended Horticulture, where it had long lain dormant. Here he arranged his medical observations; for which his memory will be respected, as long as fact and rational experiment direct the professors of the healing art. From hence he maintained a communication with most parts of the civilized world: Europeans, whom the spirit of commerce had prompted to visit distant regions, conveyed to him, through various channels, the rare productions which occurred in the course of their travels. Few maritime persons of this
country

country but had experienced his salutary assistance; our trans-atlantic brethren in particular, both on the American continent and in the islands, had either immediately, or by their friends, been acquainted with his medical character; for in cases that had proved rebellious to domestic aid, and which admitted of delay, no person was more frequently consulted: and though in his language there was a precision, with conciseness, that contained much in few words, yet the multitude of applications with which he was surrounded admitted of no leisure, for his leisure was only the variation of useful employment. His domestic correspondence, or consultations within the kingdom, were alone sufficiently extensive for ordinary occupation; but great as these avocations might be, and great they certainly were, they bore but a small proportion to the time and attention constantly devoted to the Society at large, of which he was a member, and which, though united in principle amongst each other, admitted of contingencies that demanded attention, influence, and abilities; which few men combined in a more ample degree than Dr. FOTHERGILL did, or exerted them more ardently upon all interesting occasions: at the same time, he never neglected the tender offices of private friendship in the most enlarged and beneficent sense. Among his familiar correspondents, besides his own relations, Dr. Percival of Manchester, Dr. Falconar of Bath, Dr. Dobson of Liverpool, Dr. Haygarth of Chester, Dr. Ash of Birmingham, Dr. Anthony Fothergill late of Northampton, Dr. Priestley, Henry Zouch of Sandal, Dr. Johnstone of Kidderminster, Professor Hope of Edinburgh, the late Dr. Pemberton of Warrington, enjoyed an honourable place; and I may add, that I consider it as one of the most pleasing circumstances of my life, that I have the privilege of introducing myself in this distinguished group. But among all his contemporaries, Cuming, the learned Dr. Cuming of Dorchester, shared his most unrestrained confidence: they had been colleagues at the college of Edinburgh, and intimate fellow-students, and parted with reluctance to occupy different stations in the kingdom; but their frequent communication by writing was interrupted only by death: their correspondence was long maintained in easy and classical Latin, for which few were better qualified than these twin friends. The departed Russell,

the

the accurate author of the History of Aleppo, was their early associate, and continued the chain of friendship to the time of his decease; it was then that Dr. FOTHERGILL, in the loss of Russell, wished to have his surviving associate nearer his bosom, and urged Dr. Cuming to remove to the metropolis, to enter into that scene of business, and amplitude of emolument, which his abilities must soon have commanded. After the warmest invitation from Dr. FOTHERGILL, *his Cuming**, for with this tender expression he addressed him, with a calm philosophy, that knew how to estimate the *summum bonum* of life, disinterestedly condescends to enjoy the comparatively private but tranquil scenes of life, in preference to hurry and pecuniary advantages; a physician, who has been for a series of years conversant with the complaints and distresses of thousands of families, must necessarily have acquired many intimate ties.—And here I may particularly introduce a name, which, like Dr. FOTHERGILL's, had long been distinguished for virtue and ample generosity: David Barclay, a descendant of the great Apologist, was his bosom friend, to whom the Doctor entrusted his nearest and dearest concerns; and he could not have selected any person more worthy of his confidence and friendship †.

It would be difficult to trace his pen through all the various subjects of utility on which it was employed, during the time, which was about two months, that he appropriated to leisure in his annual retreat into Cheshire: he has to my knowledge wrote six hours ‡ in the day successively, and he seldom wrote but for private information or public instruction: even his journies into the country, and his returns to the city, presented some striking observations to his inquisitive mind, that

* I am much indebted to this learned and amiable physician, for numerous anecdotes of the subject of my biography; but with a modesty characteristic of true greatness of mind, he has suggested his remarks with a diffidence, which I believe no one has less occasion to plead: in one letter with which I was favoured, when speaking of his deceased FOTHERGILL, he classically enjoins me “always keep in view that you are describing the magnitude, density, distance, and orbit of a *primary planet*; and when *my name* is to be introduced, let me appear only as an *attendant satellite*.”

† I am likewise particularly obliged to David Barclay for many very important communications respecting Dr. FOTHERGILL.

‡ Letter to the Editor, 14th September 1771.

afforded

afforded improvement in agriculture, or useful reflections on life and manners. On his return from one of his latest excursions to Lea-hall, by the way of Buxton, partly on account of his sister's health, his mind was here, as in every other situation of life, intent on promoting schemes of public good; he suggested the means of rendering these celebrated Waters more beneficial, by pointing out improvements in the use of them, with more ease and convenience to the patients *, and I believe they are now carrying into execution.

With North America his correspondence was extensive †; his name was dear to the inhabitants: his father had thrice traversed that continent

* Letter to the Editor, 4th October 1779.

† Among these may be enumerated Benjamin Franklin; Cadwallader Colden, formerly governor of New York; Dr. Chalmers, of Charles-town; the Pembertons, of Philadelphia; and the late Major John Pickering, of Tortola: and now I mention him, I may be indulged to shed a tear to his memory. He was in early life brought up to a mechanical employment, but by strength of genius, and dint of self-exertion, he acquired a competent knowledge of English, and an extensive acquaintance with mathematics; by industry he became possessed of a large tract of uncultivated land, and by perseverance he covered it with Canes and Cotton, and gradually rose to be one of the wealthiest planters in the West Indies. He was about his fortieth year made governor of the island of Tortola, and held the rank of major in the insular militia: at length he publicly professed the religious principles of the Quakers, and relinquished all his civil and military honours and employments. He afterwards rarely attended the courts of judicature, unless he thought some poor person, some orphan or widow, was oppressed by some more powerful neighbour; when he voluntarily attended, and publicly pleaded the cause of the weak, if he deemed them oppressed; and his justice and weight were such as generally preponderated.

I frequently accompanied him to his plantations; through which as he passed, his numerous negroes saluted him in a loud chorus or song, which they continued as long as he remained in sight. I was also a melancholy witness of their attachment to him after his death: he expired suddenly, and when few of his friends were near him: I remember I had hold of his hand when this fatal period arrived; but he had scarcely expired his last breath, before it was known to his slaves, and instantly about 500 of them surrounded his house, and insisted upon seeing their master: with this they commenced a dismal and mournful yell, which was communicated from one plantation to another, till the whole island was in agitation, and crowds of negroes were accumulating around us. Distressed as I was with the loss of my relation and friend, I could not be insensible to the danger of a general insurrection; or if they entered the house, which was constructed of wood, and mounted into his chamber, there was danger of its falling by their weight, and crushing us in its ruins. In this dilemma, I had resolution enough to secure the doors,
and

continent in the service of religion; and his brother Samuel, whose memory I deeply reverence, had followed the pious example of their once venerable parent. Many families, from the fame of his medical skill, crossed the Atlantic, to place themselves under his care: by such opportunities he gratified his inquisitive mind, and acquired a minute acquaintance with the disposition of the inhabitants, and the qualities of their soil, which enabled him to suggest various improvements in Horticulture, Rural Oeconomy, Agriculture, and Commerce. With his friend Peter Collinson, he encouraged the cultivation of the Vine, with the introduction of such exotic vegetables as might be usefully transplanted to different regions of that extensive continent: he laboured, with others, for a series of years, and at length successfully, to abolish the Slave-Trade among their own brethren: no man valued personal Liberty with more commendable enthusiasm, and few exerted their influence more strenuously for it, in favour of the miserable captives of Africa. On the North American continent, negro slavery will be gradually annihilated; but in the West India islands, where there are few Europeans, and where the heat, which is intense, conduces to indolence, the traffic of rational beings is pursued with vigour, and will probably be continued till the pecuniary interests of Europeans can be diverted into another channel. To effect this, he suggested the cultivation of the Sugar-Cane upon the continent of Africa, where it seems to have been indigenous, and thrives luxuriantly; and that the natives should be employed as servants for hire, and not as slaves compelled to labour by the dread of torture. Such a plan, indeed, was formerly suggested by one of the most powerful princes of Guinea. After the king of Dahomè had conquered the kingdom of Whidah, in the year 1727, he was so bent upon the execution of his plan, as to send Bullfinch Lambe,

and thereby prevent sudden intrusion; after these precautions, I addressed them through a window, assuring them, that if they would enter the house in companies only of twelve at a time, they should all be admitted to see their deceased master, and that the same lenient treatment of them should still be continued: to this they assented, and in a few hours quiet was restored; but it affected me to see with what silent, sullen, fixed melancholy, they departed from the remains of this venerable man: he died in 1768, aged about 60 years. His only surviving son, an amiable young gentleman, resides in England.

his prisoner, whom he had loaded with favours, to the court of Great Britain, to engage its commerce and support. Upon this occasion, he presented his ambassador with 80 slaves, and 320 ounces of gold, to bear his expences, and to induce him to return; but Lambe, after he had possession of so much wealth, settled in Barbadoes, and never reached Europe, or further interested himself in the project of his generous benefactor. The richness of the soil, the plenty of provisions, the convenience of carriage, and many other considerations, strongly support the opinion of cultivating the Cane on the African continent*.

A man who could thus act with a principle of tenderness which realized the Roman precept, *Homo sum, et nihil humani à me alienum puto*, could not be insensible to the near and social endearments of friendship: a physician, in particular, whose time and powers are devoted to restoring health to his fellow-creatures; removing grief and misery, and substituting comfort and happiness, must naturally have his mind humanized to the most tender sensibilities, and animated with those joys which Nature annexes to the power of doing good: his regard to his friends is expressed with officious and watchful care, and is returned with those lenient endearments which constitute unaffected friendship, and those felicities of life which remove or soften its pains.

“A physician,” says Dr. Gregory, (who might be supposed to have

* On a subject so very interesting, let it not be thought ostentatious, if I take the liberty of communicating the sentiments I could not avoid feeling in my own case, and the conduct which, as their natural and necessary consequence, they no less irresistibly produced. It is an instance given, not to support a claim to peculiar merit, but merely to shew what every one, whose heart is not hardened by acts of oppression, nor actuated by the love of money, must be disposed to feel, and think, and act, in a similar situation.

The repeated proofs of fidelity and love which I received from my own people, gave me at length so settled a confidence in their integrity, that, without the least apprehension of danger, I have frequently found that I had left not only my liberty, but my life, entirely at their disposal. The beneficence of power, and the gratitude of dependence, form an union of interests that never fails to heighten mutual regard: my own happiness became at length so closely connected with the happiness of my negroes, that I could no longer withhold from them the natural privilege of freedom, which Heaven had conferred upon me; I therefore delivered them from bondage, and thus restored them to the character of beings, into whom the Author of Nature, and Giver of all Good, has breathed the breath of life. See Benezet's Historical Account of Guinea, &c. Philadelphia, 1771. London, 1772. 12mo.

drawn his picture from Dr. FOTHERGILL, had not his own afforded the same excellent model) “ has numberless opportunities of giving that relief to distress, not to be purchased by the wealth of India. But besides the good which a physician has it often in his power to do, in consequence of skill in his profession, there are many occasions that call for his assistance as a man, as a man who feels for the misfortunes of his fellow-creatures. In this respect he has many opportunities of displaying patience, good-nature, generosity, compassion, and all the gentle virtues that do honour to human nature.”

“ I come now to mention the moral qualities peculiarly required in the character of a physician. The chief of these is, humanity; that sensibility of heart, which makes us feel for the distresses of our fellow-creatures, and which of consequence incites us in the most powerful manner to relieve them. Sympathy produces an anxious attention to a thousand little circumstances that may tend to relieve the patient; an attention which money can never purchase: hence the inexpressible comfort of having a friend for a physician. Sympathy naturally engages the affection and confidence of a patient, which in many cases are of the utmost consequence to his recovery. If the physician possesses gentleness of manners, and a compassionate heart, and what Shakespeare so emphatically calls “ *the milk of human kindness*,” the patient feels his approach like that of a guardian angel ministering to his relief; while every visit of a physician who is unfeeling, and rough in his manners, makes his heart sink within him, as at the presence of one who comes to pronounce his doom*.”

It is an adage, that friendship exists only among the virtuous: if virtue confers a presumptive claim to friendship, Dr. FOTHERGILL’s title to it could not be controverted, and at this altar alone he lighted the sacred passion. “ Sovereign benevolence,” he observed†, “ is more widely extended than the particular attachment, however reciprocal, that we call friendship. That the beloved disciple, that Lazarus, that others shared a peculiar regard from the Saviour of mankind, is evident; but still the principle was extended much

* Lectures on the Duties and Qualifications of a Physician, pp. 8, 9; 19, 20.

† Letter to Dr. Percival.

“farther: ‘*Ye are my friends, if ye do the will of him that sent me.*’
 “This was the friendship, it is most evident, that the Gospel recom-
 “mended—Loving the Great Creator above all things, our fellow-
 “creatures for his sake, and, in peculiar situations, individuals for his
 “and their own.—The friendships of Tully are beneath this kind of
 “friendship; they did honour to human nature, and to its Author
 “in a certain degree: a wider sphere was unknown to them; and as the
 “attachments they formed were on the best foundations they knew,
 “more was not to be expected. The Gospel amities are unlimited,
 “they flow to all, in proportion to that dilated benevolence which the
 “Gospel only divulges. It states, that we are friends to one another,
 “friends to the great Author of our dearest knowledge, in proportion
 “as our lives are devoted to that great Will which constitutes the
 “noblest part of the Christian character.”

A mind actuated by these sentiments of amity, could not be deficient in actions of beneficence. Introduced by his profession into scenes which equally excite sympathy, and demand succour, he was ever accessible to distress. To the inferior clergy Dr. Hird gives the following examples of his generous philanthropy, whom he considered as more particularly the objects of his liberality and attention: “Being brought up in that line of education, which, in the opinion of the world, precludes bodily labour, and to which the idea of the gentleman is annexed, without a competency to support the character; to many of these I am an evidence he was a kind friend and a private benefactor; not only by his advice in personal distress, but by his purse on severely trying occasions.—Nay, so cordial was his humanity towards these, that, on a friend’s hinting to him, whilst he was in the country, that his favours were not marked by propriety of distinction (the gentleman from whom he had refused his fee being placed in high rank in the church, with an independent fortune) he returned a ready explanation of his principle of action: “I had rather,” said the Doctor, “return the fee of a gentle-
 “man with whose rank I am not perfectly acquainted, than run the
 “risk of taking it from a man who ought perhaps to be the object
 “of my bounty.” Such was the noble style of this most excellent man’s way of thinking.

“The

“ The humane reader will feel the finest springs of his affections moved by the following anecdotes, given me by a clergyman of high rank, who reveres the memory of Dr. FOTHERGILL, and places his obligations to him, in a very trying season, near to his heart. A friend of his, a man of a worthy character, who has at this time an income of about one hundred pounds a year, church preferment, was, in the early part of his life, seated in London upon a curacy of fifty pounds per annum, with a wife and a numerous family.—An epidemical disease, which was at that time prevalent, seized upon his wife, and five of his children : in this scene of distress his heart was instantly turned to the Doctor, but dared not apply for his assistance, from a consciousness of his being unable to reward him for his attendance. A friend, who knew his situation, kindly offered to accompany him to the Doctor's, and give him his fee : they took advantage of his hour of audience, and after a description of the several cases, the fee was offered, and refused ; but a note was taken of his place of residence. The Doctor called assiduously the next, and every succeeding day, till his attendance was no longer necessary. The curate, anxious to return some grateful mark of the sense he entertained of his services, strained every nerve to accomplish it ; but his astonishment was not to be described ; when, instead of receiving the money he offered, with apologies for his situation, the Doctor put ten guineas into his hand, desiring him to apply to him without diffidence in future difficulties.

“ Although, amidst the diffusion of his favours, he too frequently met with ungrateful returns, yet he could never allow instances of this sort to check the ardour of his mind in doing all the good he could to others ; and even to those who returned ingratitude for kindness, his charity continued still patient, hoping all things. It was his common expression, when he found his favours misapplied, or himself imposed upon, “ I had much rather that my favours should fall upon many undeserving objects, than that one truly deserving should escape my notice *.”

That charity which is not influenced by the motive of human praise, and that beneficence which administers present relief to obviate present

* Affectionate Tribute, page 7, 8, and 9—with some little variation in the language.

misery, wait not for those occasions only, where their consequences are most extensive, lest subordinate afflictions, which are the most frequent, should remain neglected and unsuccoured. Of little acts of charity, which he daily exercised, volumes might be transcribed; for death, which encreases our veneration for the good

(Virtutem sublatam ex oculis quærimus invidi)

and disposes the living to warmer expressions of gratitude, has brought me acquainted with innumerable instances of his generosity. There is more misery than affluence, and more affluence than liberality; and wherever the latter unite, there will be expectation: situated, therefore, as he was, in a conspicuous point of view, where his character for liberality was universally known, various species of importunity augmented the channels through which his bounty flowed.

There is a condition of people, whose distresses are much greater than are generally imagined, and whose patience under suffering makes them less conspicuous, though no less deserving of protection, than the importunate poor. They have known better days, and consequently feel more poignantly the reverse of their condition; their reluctance in complaining, often reduces them very low in health and spirits before they are discovered, and thereby disease is accumulated upon want. From the retreats of anxiety flow an infinitude of bodily distresses; of this he was tenderly sensible; and while this modest indigence interested his sympathy, it had access to his bounty, in such a manner as was most likely to blunt the acuteness of distress; for obligations are more grateful from the manner in which they are conferred, than from their magnitude. To preclude the necessity of acknowledgment in such minds, he endeavoured to suggest some motive for his bounty, that might afford the receiver the merit of a claimant, and the liberal donor that of discharging a debt: after prescribing for such individuals, he remembered that there is such a distemper as hunger, in the catalogue of human infirmities, and not unfrequently conferred his bounty under the pretence of defraying the expence of their medicines; for that charity which is not exercised to make usury of fame, silently diffuses the

the oil of gladness over the troubled commotions of the heart, and enjoys the private retreat of unmixed happiness.

One instance, among numbers, I am urged to communicate here, as death now equally precludes the power of bestowing, and the gratitude of acknowledging, future bounties: Captain Carver's is a name known in the annals of misery, to which he was reduced by long-continued want: disease, its natural consequence, gave him access to Dr. FOTHERGILL; and I am informed by his widow, that as often as he applied for medical relief, the Doctor as often accompanied his prescription with a liberal donation. But Captain Carver was not an importunate solicitor; the mind not hardened by familiarity of refusal, or that hath not acquired, by frequent struggles, the art of suppressing its emotions, possesses that diffidence which is the inseparable associate of worth. Betwixt diffidence and want, many were the struggles of Captain Carver; but, overcome at length by the repeated acts of the Doctor's generosity, a jealous suspicion of becoming troublesome to his benefactor, determined him to prefer that want, and the deprivation of the necessities of life, which put him out of the power of choice; for death soon triumphs over famine.—What a conflict of fullen greatness does this tragedy exhibit! When his fate was communicated to the Doctor, how tender was his expression! “If I had known his distress, he should “not thus have died*!”

He that is cordially disposed to do good, will not find his beneficence disappointed for want of occasions to exercise it; for distress appears in a thousand shapes, and affords the affluent as many opportunities of augmenting their own happiness, by enlarging that of others. Were there no misery in the world, there would be few occasions for the exercise

* The king has since graciously condescended to allow the widow Carver a liberal annuity. The unfortunate husband was only known to me on his death-bed. In the early stages of his disease, he was able to wait upon Dr. FOTHERGILL; but in the progress of it, being confined to his bed, the Doctor requested me to visit the Captain at his lodgings; and my first interview was within three days of his decease. It was after his funeral that I felt myself more immediately interested in the succour of the widow and orphans. As the Captain died penniless, he was buried, to avoid expence, in the poor's ground, a part of the church-yard usually appropriated to the abject poor. When I reflected upon the utility of his Travels, I considered him as a public loss, and his offspring

exercise of those generous virtues, which beget gratitude and thankfulness on one hand, and the tender emotions of sympathy and humanity on the other. Conscious as we are, that no one is exempt from the painful vicissitudes of life, and that the blessed to-day may to-morrow experience a bitter reverse, the distressed are ever objects of commiseration, and should raise in our hearts that kind of compassion, and obtain that aid from us, which we should look for were such afflictions suffered to overtake us.

So Dr. FOTHERGILL reflected, and so he consistently acted; for he was almost incessantly suggesting methods of mitigating, not only abject poverty, but likewise that species of poignant sensibility which the reverse of better days naturally inflicts. Feelings of this nature presented to him a plan for relieving the distressed of the lower classes of the people, by lessening the price of provisions. Where the profit of labour is barely adequate to the expence of subsistence, from unfavourable seasons, or from whatever cause a temporary scarcity of the necessaries of life may originate, the severity is peculiarly felt by the poor: when land fails of its usual product in any one general article of diet, every other being proportionally more demanded, the price of the whole will be enhanced. Such a national scarcity can only be obviated by importation from another country, at the expence of money or some other equivalent value, and hence constitutes only a partial remedy; but could a substitute for national scarcity be found, which is not the product of land, such a substitute would afford the most effectual means of obviating impending distress; and this the ocean affords, which barter its produce for labour alone. If the inhabitants of a country, surrounded by a sea abounding with fish, were accustomed to live upon

offspring as the children of the public; and I presented the widow with a few pounds, to clothe and feed herself and children: but the money, thus designed to satisfy her hunger, she employed otherwise; she had the corpse of her husband taken out of the poor's ground, and buried in ground containing the ashes of higher company, and over it she raised a decent monument to his memory. His Travels, however, will prove a more durable monument than stone; and, though the dust with which we are mixed avails not to the living or to the dead, yet I was sensibly touched with this instance of post-mortuary affection, and have since endeavoured to mitigate the miseries of a mind endowed with such tender sensibilities.

this

this food one day in the week, it is evident that the same land would support one seventh more inhabitants, without enhancing the necessaries of diet. If our fisheries contributed to subsist the inhabitants of Spain, Portugal, and Italy, whilst our own poor were at times wanting bread, was it not true policy to encourage the more general use of this cheap and dietetic article?

At the approach of the severe winter of 1767, Dr. FOTHERGILL proposed a scheme, and liberally contributed to raise a fund for ensuring its success, to purchase fish at a wholesale cheap price, and to dispose of them at a small loss, till the whole subscription was expended, for the benefit of the poor and middle ranks of housekeepers. The society, who supported this scheme, which was continued to the year 1770, in the same manner purchased potatoes in Lancashire, or other cheap markets, and conveyed them by water to the metropolis, where there is more poverty, as well as more wealth, than in any other part of the kingdom; and, to countenance this diet, he purchased from the warehouses, opened for the sale of these articles, the provisions of his own table, once at least a week. If this conduct deserves to be recorded as an example for posterity, I shall be approved for introducing likewise the respectable names of David Barclay, John Barclay, Daniel Mildred, Samuel Hoare, Osgood Hanbury, Capel Hanbury, John Harman, John Strettell, Isaac Walker, Zachary Cockfield, Thomas Corbyn, and William Archer, as examples of beneficence, who co-operated in this patriotic and humane undertaking.

To break a monopoly which had highly enhanced the price of fresh fish in all the markets about London, he first suggested the scheme of bringing fish by land-carriage; and though it did not succeed in every respect, it tended to destroy a supposed combination, which has never since arisen to the same alarming extent; and may probably long be remembered, as a project which, though now suspended, may be renewed at a future time, should the same complaint again occur.

To render bread much cheaper to the poor, though equally as wholesome as the best wheaten, Dr. FOTHERGILL proposed a method of making it with one part of potatoes, and three parts of household flour; and to encourage its use, he caused proper directions to be distributed

among the bakers and others in the city. I have often eat this bread, and were it dearer, I should prefer it to that made of the finest flour.

A wholesome bread may likewise be made, by mixing the fine flour of Indian corn with that of wheat, in equal proportions; which, if rightly managed, the colour will be about the same as the standard wheaten bread, and, before the present contest with America, might have been sold about two-pence in the quartern loaf cheaper than the fine wheaten, when that may be at eight-pence per quartern; and, should days of peace return, will doubtless be again equally cheap.

No substance, used as aliment, has been more fully and satisfactorily proved to be nutritious than this corn, which was once imported hither in considerable quantities from North America, where it forms a large share of the diet of both the rich and the poor: it is light and easy of digestion, and at the same time affords much nourishment, as those most addicted to it endure exercise and labour with superior ease; and it has likewise been particularly remarked, that horses fed with it will travel farther, and bear the fatigues of a long journey much better, than when fed with any other food whatever. It was formerly much used about London for the feeding of hogs, and it has rendered their flesh whiter, sweeter, and better flavoured, than when fed with any thing else hitherto used; and for black cattle, deer, and poultry, there is no food superior to this grain.

The people of North America dress the flour into various forms, which it is as well calculated for as that of wheat; in the West Indies it constitutes a large share of the food of the negroes, who, perhaps, undergo as much hardship and labour as most of the sons of men.

The flour of this corn possesses, to most, an agreeable sweet flavour; so that some persons, who have accustomed themselves to eat the bread made of it, find a difficulty in returning to the use of any other. Great care is requisite in grinding the corn, as a part of the interior edge of the grain is composed of a ligneous spongy substance, the middle of which is of a dark brown colour, and of a bitter taste, which, if ground into the flour, produces a disagreeable taste; to avoid which, the mill-stones should be set so wide as but just to burst the
thick

thick or farinaceous part of the grain, which should be passed through a sieve; in order to separate the above-mentioned bitterish substance; the grain should then be ground with the stones set to render it sufficiently fine: by this precaution the flour is as white as that of the finest wheat, and full as pleasant to eat; it possesses, like potatoes, the quality of preserving the bread, made from a mixture of it, in a moist state for many days, which, at least in warm weather, is no inconsiderable advantage*.

Though numerous rivulets, when united, constitute a considerable current; yet, various as were the channels of the Doctor's bounty in the minor departments of beneficence, they formed but a small proportion of the ample income which flowed from the extensive exercise of his profession. Those acts of beneficence, where, like the oak which germinates from an acorn, great effects arise from small causes, may be classed under minor departments, when referred to him, whose liberality flowed into so many wide and distant channels: seldom was any useful subscription set on foot, either in this kingdom or its dependencies, without his name standing foremost in the list, as many of the schools at home and abroad can gratefully evidence: in public calamities, as in instances of private distress, but in a more enlarged manner, the sympathy of his heart expanded the bounty of his purse—

His bosom Truth's fair palace; and his arms
Benevolent, the harbour of mankind!

BROOKE'S Gust. Vasa.

A man who devoted his labour and fortune to public good, without ostentation, may have raised many monuments of public benefit, that are too remote to be clearly recollected, or too recent to be fully ascertained. In the late war, when the success of our arms had filled the prisons with captives, and reduced our enemies to a state too abject to administer support adequate to the misery of their own people, a

* Whilst I am considering the means of relieving the poor by a healthy substitute for wheaten bread, I cannot but recommend the perusal of a performance lately published, intitled, Observations on such nutritive Vegetables as may be substituted in the Place of ordinary Food, extracted from the French of M. Parmentier. 8vo. Murray. London, 1783.

national subscription was instituted, to feed and clothe these unfortunate victims of war; for a brave people, like the Persian Cyrus, deemed those no longer enemies whom they had vanquished *. In this noble undertaking Dr. FOTHERGILL bore a considerable share: the Society of Quakers, who scarcely constitute the two hundredth part of the nation, raised above one fourth of the whole subscription; towards which he was an ample contributor, and was appointed one of the Committee † for conducting and appropriating this national bounty; of which no instance of equal urbanity, was ever recorded in the heroic ages of Greece or Rome ‡.

* Norborn Berkeley, afterwards Lord Botetourt, then colonel of the militia who guarded the French prisoners at Winchester, was struck with their distress, and was the first who proposed a subscription for their relief.

† The benevolent Thomas Corbyn, with the late Richard How, were likewise of this Committee.

‡ Dr. Johnson, in his noble preface to the Report of the above Committee, justly remarks, that “ new scenes of misery make new impressions; and much of the charity which produced these donations, may be supposed to have been generated by a species of calamity never known amongst us before. Some imagine that the laws have provided all necessary relief in common cases, and remit the poor to the care of the public; some have been deceived by fictitious misery, and are afraid of encouraging imposture; many have observed want to be the effect of vice, and consider casual alms-givers as patrons of idleness. But all these difficulties vanish in the present case: we know that for the prisoners of war, there is no legal provision; we see their distress, and are certain of its cause; we know that they are poor and naked, and poor and naked without a crime.

“ But it is not necessary to make any concessions. The opponents of this charity must allow it to be good, and will not easily prove it not to be the best. That charity is best, of which the consequences are most extensive: the relief of enemies has a tendency to unite mankind in fraternal affection; to soften the acrimony of adverse nations, and dispose them to peace and amity: in the mean time, it alleviates captivity, and takes away something from the miseries of war. The rage of war, however mitigated, will always fill the world with calamity and horror: let it not then be unnecessarily extended; let animosity and hostility cease together; and no man be longer deemed an enemy, than while his sword is drawn against us.”

“ The effects of these contributions may, perhaps, reach still further. Truth is best supported by virtue: we may hope from those who feel or who see our charity, that they shall no longer detest as heresy that religion, which makes its professors the followers of HIM, who has commanded us to “ do good to them that hate us.”

The present unnatural war in America* afforded a fresh example of popular misery, and another instance of Dr. FOTHERGILL's beneficence; for his bounty flowed copiously into the channels of misery, wherever it existed. As the contention in America was embittered by reciprocal injuries, each contending party was more and more stimulated to acts of violence, till reiterated distresses had level'd most ranks of people into penury and want. To obviate these ravages of intestine war, a subscription was opened among the Quakers of Europe, for the service of their fellow-subjects beyond the Atlantic. If Dr. FOTHERGILL did not first propose, he was certainly one of the most early and liberal advocates for this generous subscription. Its application was not confined to any sect; it was extended to the miserable of every denomination; for, under affliction, we ought to be brethren by sympathy. But to describe the Doctor in every act of his beneficence, would constitute an epitome of human woe counteracted by godlike generosity.

I hope it will not be deemed a partial attachment to sect, should I indulge myself in a digression not immediately connected with the object of my narrative. Considering the general philanthropy of a Society of which Dr. FOTHERGILL was a distinguished member, it may seem strange that it should have obtained the obloquy and invidious reflections of persons of all denominations, when a little enquiry would have afforded sufficient reasons for adopting more favourable sentiments. A cause, and one of the most difficult to eradicate, is the impressions imbibed in early life, prejudicial to this Society. No book, perhaps, is at present more generally read in schools than Guthrie's Geographical Grammar; and, so far as it respects the religious principles of the Quakers, it is composed of errors and misrepresentations, with which the writer would have been ashamed to have charged any of its members: but early impressions being most permanent, and these prejudices being interwoven in school education, become familiar to youth, and grow up with them, and consequently possessing no novelty, they excite no future investigation; and thus opinions, founded upon misrepresen-

* Whilst this sheet was in the press, the Preliminary Articles of Peace were signed, on the 20th of January 1783.

tation, are admitted as habitual and established truths. What is different from the general habitude of mankind, will not acquire general applause: it is not flattering to self-love to admit, much less to approve, opinions which controvert its own; and those of the Quakers consist of such as were calculated to obtain popular obloquy. The whole tenor of their principles being contrary to war, they could not therefore raise the esteem of the military; as they had no priests, and considered the exercise of the Gospel to be free, they could not conciliate the affections of the clergy; in like manner, as they discouraged going to law, they could not expect the favour of the professors of law: and thus the principal sources, upon which the public opinion must depend, were naturally adverse to a Society, whose principles counteracted their views and their emoluments.

Whoever is bold enough to dissent from popular opinion, is reprobated as obstinate or fanatic by popular decision; but, however sudden passion may controvert a general position, mankind are seldom long and deliberately obstinate against private interest. But the system on which I am adverting, as it admitted not of oaths, it debarred itself from all emoluments under government; as it repressed pomp and ceremonious address, it could neither court the great nor flatter the gay. From such a system of self-denial the Society could never be numerous; and, as might be naturally imagined, would rather have excited pity than persecution: but, unenviable as their religious opinions might appear, so natural is it for the strong to oppress the weak, that they were compelled to seal those opinions with their blood. Time, however, which is the measure of actions, has placed men and opinions in new points of view:

Opinionum commenta delet dies, naturæ judicia confirmat. CIC.

Persecution drove the Quakers to America, where they founded a government unknown in modern times; where the world beheld a people in power, the only people recorded in history, who never exercised that power to oppress and persecute the weak!

What is familiar and near us, excites little scrutiny or investigation; but the time may come, when a wise legislator may descend to enquire,
by

by what medium a whole Society, in both the Old and New World, is made to think and act with uniformity for upwards of a century ! By what polity, without emolument from government, they have become the only people on earth free from poverty ! By what œconomy they have thus prevented beggary and want among any of their members, whilst the nation groans under taxes for the poor ! Then perhaps their fanaticism may not appear to the public in a worse point of view than has been exhibited by a modern writer on the continent, whose sentiments are as follow. After giving a view of their religious principles, he says, “ * Après cela qu’on range tant qu’on voudra les Quakers parmi les fanatiques ; ce sont toujours des fanatiques bien estimables. Je ne puis m’empêcher de déclarer, que je les estime un peuple vraiment grand, vertueux, plein d’industrie, d’intelligence, et de sagesse. Ce sont des gens animés des principes les plus étendus de beneficence, qu’il y ait jamais eu sur la terre. Leur charité se porte sur toute la race du genre humain, ne refusant à personne les miséricordes des dieux. Ils reconnoissent publiquement que la liberté universelle est due à tout le monde. Ils condamnent les impôts, et néanmoins ils les payent, et s’y soumettent sans murmure. Enfin, c’est peut-être le seul parti chez les Chrétiens, dont la pratique du corps entier reponde constamment à ses principes. Je n’ai point de honte d’avouer que j’ai lu et relu avec un plaisir singulier l’Apologie du Quakérisme par Robert Barclay ; il m’a convaincu que c’est, tout calculé, le système le plus raisonnable et le plus parfait qu’on ait encore imaginé.” *Encyclopedie Fr. T. 13. p. 648.*

* Let those, who please, consider the Quakers as fanatics ; they are such fanatics as always merit esteem. As to myself, I cannot but acknowledge, that I consider them as a great and virtuous people, industrious, intelligent, and wise, and animated with the most extensive principles of beneficence that have ever yet appeared. Their charity is extended to the whole human race, denying no one a godlike compassion. They publicly acknowledge that liberty is due to all ; and though they condemn imposts (ecclesiastical taxes, and those for carrying on war) they submit to them without murmuring. They are, perhaps, the only Society of Christians, whose practice and principles amongst all its members constantly correspond. I am not ashamed to own, that I have repeatedly perused, with singular pleasure, Robert Barclay’s Apology for the Quakers ; and I am convinced, take it all together, that it is the most rational and perfect system that hath ever yet been conceived.

He that so arduously and successfully exerted his abilities and fortune in promoting private and public good, was, upon numerous occasions, a generous patron of Literature: though above courting the adulation of authors, he endeavoured to direct the genius and improve the writings of persons of useful talents: without leisure to arrange and publish so much of his own experience as the public desired, he sought opportunities of suggesting to others such objects of enquiry as might prove most beneficial to the community. Those who are the most capable of instructing mankind, are oftentimes, from a diffidence which associates with true excellence, most backward of imparting instruction. Cleghorn, the ingenious and inquisitive Cleghorn, who practised long and successfully at Minorca, returned to England without having arranged his important history of the diseases of that island, which he afterwards did at the suggestion of Dr. FOTHERGILL *. These physicians, to whom the world has been so much indebted, as they had been early colleagues in study, so they continued intimate friends, emulating each other in medical researches. The latter, when he first read what Cleghorn had effected, speaks of his labours with that liberal spirit of approbation, which envies not the laudable actions of another: “ † Miraberis proculdubio Cleghornii nostri industriam; in orbis etiam “ angulo situs majores facit progressus quam nostrorum quivis, quibus “ etiam non desunt idonea studiorum adminicula. Alius itaque alium “ excitemus, ut ejus insequamur vestigia, tantoque viro dignos evademus “ amicos.”

To Dr. Russell, his early associate, and afterwards his correspondent

* The most material parts of Dr. Cleghorn's excellent publication were communicated to Dr. FOTHERGILL, in letters from Minorca, dated in the years 1742 and 1744; methodically digested, and written in pure, elegant, and classical Latin, which language he wrote with great fluency. These letters Dr. FOTHERGILL transmitted to Dr. Cuming, who was likewise an intimate correspondent of Dr. Cleghorn's, as well as of Dr. Russell's.

† Thou wilt no doubt admire the industry of our friend Cleghorn; who, situated in a corner of the world, has made greater progress than any of us, who even do not want the proper aids of study. Let us therefore stimulate one another, that we may follow his footsteps, and become the worthy friends of so great a man.

Letter to Dr. Cuming, 14th August 1742.

at Aleppo, and whose life he has commemorated with the tenderness of fraternal affection ; to the amiable Russell, he urged the importance of an historical narrative of that city and its environs ; and which the latter executed, with a perspicuity that will hand down the work, and the reputation of its author, to distant posterity *.

Within the extent of my knowledge, similar instances might be largely multiplied ; and they equally point out his generous ardour in the promotion of useful knowledge : in many literary performances, indeed, his assistance has acquired public acknowledgment, as the respectable names of a Ratty, a Macbride, a Falconar, and many others, will testify. Few men of distinguished reputation pass through life with merely silent admiration ; gratitude or respect will at length single them out as patrons of science ; and dedications of just applause, or misapplied adulation, will follow : but as Dr. FOTHERGILL was uniformly more desirous of doing good, than of having it known, he was averse to dedications, and considered them as a species of literary pageantry, more productive of envy to the patron, than of advantage to the author. I was once with him at Lea-hall, when a gentleman, whose reputation justly afforded him the most honourable distinction, requested to address a work of intrinsic merit to the Doctor, and I well remember his reply :—" My friendship will not be augmented by such a public instance of respect : apply therefore to some eminent person, whose friendship may thus be conciliated ; whereby," added he kindly, " an old friend may be preserved, and a new one gained."

That immense work of Botany, wherein the pencil of Miller illus-

* From the time he left England, to his return in February 1755, we had maintained, says Dr. FOTHERGILL, a regular correspondence. I could not forbear mentioning to him repeatedly, how acceptable a more accurate account of Aleppo would be to this nation, and to all Europe ; that no person would probably ever stand a chance of succeeding in it so happily as himself ; that his long residence there, his knowledge of the language, the manners, customs, diseases of the place, the great credit he had acquired amongst all ranks, by an able, diligent, and disinterested exertion of his faculties, his influence over the Pascha, and the respect paid him by the Turks themselves, would facilitate every enquiry. He viewed the proposal in the same light, collected materials, made suitable enquiries, and has erected a lasting and honourable monument to his memory.

Life of Dr. Russell.

1 SOME ACCOUNT OF THE LATE

trated, in a style of unprecedented elegance, the sexual system of Linnaeus, chiefly from the originals at Upton, was actually dedicated to the Doctor; and afterwards, with no little difficulty in recalling the copies, cancelled at his express solicitation. Though he delighted to encourage ingenuity, he disliked to be told of it.

PURVER, the indefatigable translator of the Bible and Testament, by wonderful self-exertion, acquired an extensive knowledge of the languages requisite for this arduous labour; and at length effected, by the patronage, and solely by the patronage of Dr. FOTHERGILL, a literal translation of the Sacred Scriptures*: and though a tenaciousness in the learned author for provincial idiom, rendered this valuable translation less read and esteemed, yet, independent of idiomatic objections, it may justly be estimated among the principal productions of the century.

In the process of this narrative, I have often had occasion to reflect, that what is known cannot be immediately told. There are circumstances connected with the living, which delicacy forbids to record; or with the dead, whose ashes it were cruel to the surviving friends to molest: hence many a good man's actions are buried in oblivion. Such must be the lot of many a noble instance of Dr. FOTHERGILL's munificence. I should even have passed over in silence that which the late Dr. Knight afforded, had it not been generally known, and recently revived by the classical pen of a respectable physician†. The Librarian of the British Museum, whose character was deservedly esteemed, by some speculations in mining, more plausible than productive, became so far involved in his circumstances, as to be obliged to apply to those he deemed his friends for pecuniary support; but his application was received with coolness. In this dilemma, though he had enjoyed the personal acquaintance of Dr. FOTHERGILL, he could not have presumed upon making such a request, but from the compulsive motive of necessity. The ingenious Knight, with diffidence, told the Doctor what would render him once more a happy man. The answer given by the

* In two volumes folio, anno 1765.

† Memoirs of the Life, and a View of the Character of the late Dr. FOTHERGILL; by G. Thompson, M. D.

physician

physician of philanthropy, whose heart never felt the distress of another without wishing to remove it, was short but expressive,—“ *I will then make thee happy* *.” His was not that drop-like bounty, which pauses in its progress; it was full, flowing, and benign †; for I am informed, that in this instance it amounted to about a thousand guineas.

*Nullus argento color est avaris,
Abdito terris*—— † HOR. lib. ii. od. 2.

Persons, whose moments are devoted to employments of profit, are rarely disposed to sacrifice private emolument to public good. Time, to a medical character of high reputation, is a lucrative reality; and he that devotes a share of it to the benefit of the community, in that proportion sacrifices his private interest. It is rarely, indeed, that physicians depart from the routine of professional practice; but Dr. FOTHERGILL, whose enlarged mind was capable of embracing every object of utility, was an exception: the punctuality of his conduct, and the perspicuity of his reflections, gave an activity to his mind to promote improvement and perfection in every thing around him. The crowded streets of the Metropolis, its superb edifices, and perpetual traffic, excite admiration in the most indifferent, whose attention may not have been attracted by more minute investigation; but the active mind of our Associate, unrestrained in its survey of utility, was often engaged in detecting error and pointing out improvement in this splendid city, which he communicated to those concerned in its government, either immediately, or by letters in the public prints. His letters on subjects of police, and in other departments, could they be collected together, would constitute an ample and useful volume, calculated to instruct the magistrate, and inform the architect and tradesman. He

* The immense artificial loadstone, described in Dr. FOTHERGILL's Works, was the invention of Dr. Knight, and presented by the former to the Royal Society.

† See Dr. Hird's Affectionate Tribute, page 7.

‡ Gold hath no lustre of its own;

It shines by temperate use alone. FRANCIS.

condescended even to exert his influence in the improvement of the common pavement; to widen the streets, and open new communications for the health and convenience of the citizens.

As he considered the easy and cheap conveyance of merchandize, and other articles of consumption, from various parts of the nation to and from the Metropolis, as of immense importance to the manufactures, trade, exports, and wealth of the city, he suggested the plan of bringing the northern navigations, which already unite Liverpool, Bristol, and Hull, into the vicinity of London, by new canals, the grand reservoir of which he projected to rise in Cold-bath-fields. In his fertile imagination, I have listened with pleasure to the familiar manner in which he delineated the facility of this important intercourse; and probably, when the great tendency of trade towards the north of this kingdom, from the advantage of navigable canals, shall have roused the citizens of London to protect and prosecute their own interests, such a project may be seriously revived, and effectually executed*.

Those only, who have acquired the habit of doing much in a little time, know how to estimate its value; and the œconomy of time, applied to the various concerns of trade and commerce, admits of the most profitable balance in favour of industry and traffic. In this useful point of view, among many others, he considered easy communication through the streets of London as of singular importance in a mercantile city, and lamented the obvious deficiencies in this respect, which occurred in almost every part of London. From the great northern road the city is chiefly accessible only by Smithfield and Bishopsgate-street; and from the former of these to the latter, there is no communication that conveniently admits of more than one carriage to pass at a time; whilst suitable avenues, with little expence, might have been formed, by an ample entrance from Moorfields to the Mansion-house, and from Islington to Black-friars-bridge, in straight lines: this he projected; and, by the exertions of Charles Dingly, who constructed the saw-mills at Lime-house, in imitation of those at Sardam, it was near being accomplished.

* See a judicious pamphlet, just published, intitled, Considerations on the Idea of uniting the Rivers Thames and Severn, 4to. 1782:

Black-friars-bridge, one of the first structures of the kind that human industry and judgment ever executed, and which covers the wealthiest stream in the universe, certainly deserves an avenue of some elegance, especially where elegance would necessarily be joined with utility.

Many other parts might be gradually improved, by seizing the opportunities of casual conflagrations, or the slow but more certain dilapidations of time; to widen the streets, or to improve the structure of new edifices; and few opportunities of this kind escaped the Doctor's attention, and his consequent recommendation to the magistracy*.

Indeed, one of the most dreadful consequences of a large and close-built city, is the conflagrations which so frequently break out, and against the devastation of which no remedy of the legislature has yet been adequate; nor perhaps ever will be, whilst, under the privilege of freedom, structures are raised, and employments carried on, in situations which true policy would interdict. Of these, sugar-houses, and the operations in them, where much fuel is necessarily expended, afford striking examples; and in this point of view engaged the attention of the Doctor, who at different times proposed various modes of prevention. When the Minories was laid open, by pulling down the old houses, the situation appeared to him as very eligible for the construction of these and similar hazardous buildings, where the use of fire in quantity might endanger houses in their vicinity. Two letters upon this subject, though printed without his name, he told me were his productions; which I have inserted, as instances of his regard to objects of general utility†.

A. cause

* After the conflagration of Langdale's distillery, at the bottom of Holborn-hill, the Doctor took much pains to have the buildings, to be constructed on their ruins, thrown back, in a line with those on Holborn-hill; but, laudable as his endeavours were, he laboured in vain.

† GAZETTEER, December 30, 1768.

“IN the compass of one week two sugar-houses, in the most populous parts of the city, have been destroyed by fire, and have spread desolation and terror in the neighbourhood.

“I consider these edifices as built for destruction; there being more sugar-houses burnt down than any other houses of manufactory.

“ Whether

A cause of destruction, almost peculiar to great cities, and perhaps equally frequent and fatal as the foregoing, is the mode of interment of the bodies of the dead, and particularly those of the poor; and which is still continued in this metropolis. In some burying-grounds the graves are made sufficiently wide to contain three or four wooden coffins abreast,

“ Whether this is owing to any fault in their construction, or to the ignorance, neglect, and stupidity of those who are employed in this business, I know not.

“ Ought a well-governed city to permit such buildings to be erected as are attended with such dreadful consequences? Most certainly it ought not.

“ A gentleman, whose life is of great consequence to many, as well as to his family, lay extremely ill of a dangerous disorder: the terrible alarm of fire within a few doors made it necessary to take him out of his bed, and to carry him, half naked, to the first hospitable door where the family could think of getting admittance. His recovery was extremely doubtful before; this event will not lessen the hazard.

“ Shall families be stripped of their support, shall the public be deprived of useful members, shall distress and ruin be spread through a neighbourhood unnecessarily, and without any endeavour to prevent the like inconvenience for the future? Humanity, at least, speaks another language. Perhaps hearts, obdurate to every other sensation but that of gain, would pass through the ruins of the metropolis itself, without a sigh, or a wish for the prevention of such fatal accidents!—

“ The city shews, in many respects, an inclination for improvement; and I wish that no more sugar-houses might be suffered to be built in the city, nor those that are built tolerated beyond a certain time, that is, their present leases.

“ I would not presume to direct where these now necessary edifices ought to be built; but, as I think no person ought hastily to find fault with any thing, unless he proposes a remedy, I take the liberty to suggest the following to the consideration of the public.

“ In the tract of ground that lies between the Minories and Poor Jewry-street, I think there is space enough now vacant, or likely to become so, on which as many sugar-houses might be erected as there are in the city.

“ Let an act of parliament be obtained to prohibit the future erection of any sugar-houses, except in this particular part. The site would be very advantageous to the sugar-bakers themselves; it is near the water-side, and the conveyance to all parts of the town easy. Their fuel, their sugars, would cost less to be laid in here, than in most other places. Besides, the city would be eased, by this means, of one of the greatest nuisances that attends it, the sugar-carts; the unloading and loading of which cost more time to the passengers in carriages, than the brewers drays themselves; for most of the sugar-houses in the city are in narrow streets, yet in streets and passages much frequented: Bow-lane, Knight-rider-street, and some others, might be mentioned.

“ As the parliament is fitting, and the city of London may have occasion to apply on divers accounts, I wish they would be pleased, in conjunction with the insurance-offices,

whose

abreast, and deep enough to hold twice as many in depth: these pits, after each burial, are covered with a few loose boards, and a little mould, to hide the coffin from common view; but they are never filled up till the whole complement of corpses has been interred. When this is done, a second grave is opened upon the same plan, close to the first, leaving the sides of the former coffins still exposed; by which means

whose interest is at stake, to take the premises into consideration, and apply for an act to prevent the building or rebuilding of any more such works in the heart of the city, as in every respect they are prejudicial; for the vast quantity of smoke they produce, and the filth attending them, are as injurious to the health, as the fatal accidents of fire are destructive of the safety of the inhabitants."

GAZETTEER, January 19, 1769.

"THE same motives that induced me first to take notice of the recent calamities occasioned by the sugar-houses lately burnt down, incite me to revive the subject."

"In scenes of hurry, and perpetual calls to new objects of pleasure, profit, party, and perhaps distress, it is not to be wondered at, if remarks, even that all approve, are read and forgot."

"Mention was made in the paper referred to, of the dangers to which the sick in the neighbourhood of fires were peculiarly exposed. I have met with several instances of this nature, since those accidents. One of them was a woman with child, and then within two months of her time: the fire being in the same street, her surprize was excessive; and she was seized with a disorder that seems to threaten the life of the mother and the child, and to deprive a young family of their comfort and support."

"No doubt but such accidents occur in the vicinity of all fires. Let us, however, secure ourselves from the hazard as much as we can."

"Within the circuit of a mile and an half, in the most populous part of the city of London, there are not less than eighteen sugar-houses. Five or six of these have been burnt down within the last twenty years, and some of them twice, as I am credibly informed."

"Can the magistrates, can the representatives of this great city, vindicate their supineness, in exposing such a number of their fellow citizens to all the calamities arising from these houses, devoted, as it were, to the flames, and to spread terror, death, and ruin, through the neighbourhoods in which they are erected?"

"It is sufficient for a private man to have pointed out the evil. It now becomes the duty of the public, and of those particularly whom the public choice has raised to dignity and honour, to take care that the commonwealth suffers no loss."

"To these I call; I call likewise to the inhabitants in the neighbourhood of these buildings, to rouse their representatives in common council, in the great council of the nation likewise, to secure them from impending danger."

these

these wholesale receptacles of the dead become so offensive, as frequently to oblige the ministers, and others upon funeral duty, to stand at a considerable distance, to avoid the stench arising from them. The infalubrity of such a practice is confirmed by the testimonies of many writers*. It was what Dr. FOTHERGILL uniformly discouraged; and, to supply the defect of burying-places within the city, he proposed the site of Moorfields, as lying on the north side of the town; southern winds being more sultry, and likely to convey to the inhabitants any noxious exhalations, the diffusion of which, it is well known, northern winds tend rather to check than promote. That this, however, might be executed with decent elegance, he formed the idea of constructing Cemeteries in this large space of ground, formed into distinct regular rows, suitable for every degree of citizens, and appropriated to families, in the same manner as vaults in general are.

In a large and crowded city, where the free circulation of the air must necessarily be greatly obstructed, every means conducive to the preservation of health should be studiously promoted; and, next to bodily exercise, and the enjoyment of the open air, nothing perhaps contributes more to it than cleanliness by bathing, which the inhabitants of warm climates, both in ancient and modern times, considered likewise as the highest gratification, as the multitude of their Baths, and the stupendous structures raised for private and public accommodation, fully testify.

The wealthier citizens of the present time are, indeed, in the habit of enjoying this salutary luxury; though, from the revolution in dress, and the frequent change of cloathing, unknown to the ancients, they have neither the necessity of former times, nor the occasions which the poor

* I have known instances of the hospital-fever, says Sir John Pringle, beginning in a ward, when there was no other cause but one of the men having a mortified limb. Diseases of the Army.

He adds, amongst the causes of malignant fevers, burials within the towns, and the bodies not laid deep. Ibid.

Forestus says, he was an eye-witness to a plague which arose from the same cause.

Diodorus Siculus observes, that the putrid steams arising from the bodies of those who lay unburied, was one of the causes of that dreadful distemper that broke out among the Carthaginians at the siege of Syracuse. And numerous other authors attest the same facts.

at present labour under, of washing themselves from the impurities incident on manual employments, and the want of change of cloathing.

In conversation, Dr. FOTHERGILL has repeatedly mentioned to me the importance of public Baths, for the convenience of the lower classes of the people; and the annexed letter evinces, that he took some active steps towards the accomplishment of this easy, safe, and salutary gratification*.

In

* " To the DIRECTORS of the New River Company.

" GENTLEMEN,

" HARPUR STREET, Nov. 16, 1780.

" I take the liberty to mention a circumstance, which I think is of some importance to the salubrity of your water, and therefore not unworthy of your consideration.

" Returning lately from the North, and passing through Ware, I was struck with observing the quantity of leaves falling into the New River from the trees growing along its banks; at the same time reflecting, that in the whole of its course to Ilington, the quantity must be such as could not fail, by rotting in the current, to render the water less pleasant and less wholesome. Whether this circumstance has occurred to you, I know not; but I am very certain it must have a considerable effect on the water; and it appears, from late experiments, that the sun has much influence in meliorating the water. For both these reasons I imagine you will think it expedient to give particular instructions to those who have the immediate care of the river committed to them, to take care to have as many of the trees removed from the verge of the river, as possibly can be done, without creating too much opposition; to prevent, every where, any new ones from being planted so near the river, as to injure it either by their shade or the falling leaves. It is of no small importance, and I doubt not but the matter will be properly attended to.

" Another circumstance I have long wished to communicate to you, which I think is an affair deserving your consideration: I need not mention the trouble you have annually on account of people bathing in the New River, and the disgust it gives to those who are witnesses of the facts, as well as to those who drink the water and hear of it. The only means I can suggest to prevent this double mischief, is to make it the interest of those who do it, to do otherwise. It seems to me, that you would render an essential service to the community at large, and to the proprietors, if you would either build a few bathing-houses in convenient places, or encourage others to build them, where people might be permitted to bathe at low prices; six-pence, three-pence, a penny each, &c. Begin with a few, extend them as occasion requires; some for men, some for women; some for boys, others for girls; and a peace officer or two to be on the spot, to see that no irregularities are committed. On vacant spots in the Spaw Fields, and other parts in the vicinage of populous places, they might be built conveniently, and let to advantage, limiting the tenants to low rates, for the accommodation of servants, and others, who cannot afford a shilling a time; and many for this reason go into ponds and rivers beyond their depth, to the loss of several lives.

In large communities vice has ever abounded, though the wisest legislators have used endeavours to prevent and restrain it, by the encouragement of industry, and by the infliction of punishments on the commission of crimes. Liberty, the birthright of man, the possession of which he cannot be too solicitous to maintain, has, in most states, been denied to criminal members of society; and, in some instances also, where the breach of social regulations has been the effect of unavoidable misfortune, rather than of actual vice: it has, however, always been the wish of humanity, that punishments could be so applied, as to be strictly adequate to the degrees of offence. Certain it is, that the indiscriminate confinement of many persons together, is productive of two unhappy inconveniences; the first, as it affects the body, by generating infectious diseases; and the other, as it contaminates the mind, by hardening the vicious, and, by their example, depraving those not already abandoned. All Europe is acquainted with the benevolent, the godlike exertions of HOWARD, whose memory will ever be dear to the miserable tenant of a prison, and to whose labours that elegant statesman, BURKE, has borne the most honourable testimony*.

This

“ As I am persuaded that by this means you might prevent, or be enabled to punish with due severity, transgressors, and do a public benefit, I have no doubt but you will excuse me for suggesting these considerations; in the execution of which I shall readily communicate every thing that has occurred to me respecting it.

“ I am, with much respect,

“ Your Friend,

“ J. FOTHERGILL.”

[Communicated to my valuable friend, John Scott, Esq; of Amwell, well known in the literary world; by the late Amie Garnault, Esq; of Bull's Cross, Middlesex, who was an active member of the New River Company.]

* I cannot name this gentleman (Mr. Howard) without remarking, that his labours and writings have done much to open the eyes and hearts of mankind. He has visited all Europe,—not to survey the sumptuousness of palaces, or the stateliness of temples; not to make accurate measurements of the remains of ancient grandeur, nor to form a scale of the curiosity of modern art; not to collect medals, or to collate manuscripts:—but to dive into the depths of dungeons; to plunge into the infection of hospitals; to survey the mansions of sorrow and pain; to take the gage and dimensions of misery, depression, and contempt; to remember the forgotten, to attend to the neglected, to visit the forsaken, and to compare

This HOWARD was the intimate friend of Dr. FOTHERGILL; they were the friends of humanity; and both were employed in lessening the miseries of human life, though in different spheres; but in attempting to prevent those injuries and diseases which human contagion produces, they united their labours. The legislature, justly alarmed at repeated instances of infection, which prisoners disseminated in courts when brought before their judges, was disposed to receive the best advice for obviating such baneful effects. Dr. FOTHERGILL and his friend were desired to attend the House of Commons; before which they gave such information, as induced the legislature to pass a Bill, intitled, “An Act for preserving the Health of Prisoners in Gaol, and preventing the Gaol Distemper,” anno 1774; and afterwards to recommend the building of detached or Penitentiary houses*, as a mode of punishment calculated to restrain indolence and vice. These two distinguished persons, with George Whatley, Esq; were appointed, by the king, Com-

compare and collate the distresses of all men in all countries. His plan is original; and it is as full of genius, as it is of humanity. It was a voyage of discovery; a circumnavigation of charity. Already the benefit of his labour is felt, more or less, in every country: I hope he will anticipate his final reward, by seeing all its effects fully realized in his own. He will receive, not by retail, but in gross, the reward of those who visit the prisoner; and he has so forestalled and monopolized this branch of charity, that there will be, I trust, little room to merit by such acts of benevolence hereafter.

Burke's Speech at the Guildhall in Bristol, 1780.

* J. Clitherow, Esq; the brother-in-law of the late Judge Blackstone, in the preface to his Reports, containing memoirs of his life, attributes, in a great measure, the origin of these houses to his amiable brother. “In these houses,” says he, “the convicts are to be separately confined during the intervals of their labour,—debarred from all incentives to debauchery,—instructed in religion and morality,—and forced to work for the benefit of the public. Imagination cannot figure to itself a species of punishment, in which terror, benevolence, and reformation, are more happily blended together. What can be more dreadful to the riotous, the libertine, the voluptuous, the idle delinquent, than solitude, confinement, sobriety, and constant labour? Yet what can be more truly beneficial? Solitude will awaken reflection; confinement will banish temptation; sobriety will restore vigour; and labour will beget a habit of honest industry: while the aid of a religious instructor may implant new principles in his heart; and, when the date of his punishment is expired, will conduce to both his temporal and eternal welfare. Such a prospect as this is surely well worth the trouble of an experiment.”

missioners for directing suitable buildings to carry into execution this new system of correction.

The first of these, our President, did not live to see this useful design completed, though he had laboured assiduously in digesting it; and had previously inserted some useful remarks on the punishment of convicts; in the public prints, which I think too important to be omitted in his Works:

To obviate, however, and repress the first eruptions of vicious propensity, is an object of the greatest importance to the welfare and happiness of the community. In some instances, more might be effected by lenient means than by severe punishments: one begets gratitude, and a desire to retrieve reputation; the other hardens the mind, excites the passions of revenge and cruelty, and confirms a more abandoned profligacy of conduct. There are even vices, which seem to vibrate from a false shame, or mistaken integrity: the impoverished husband, upon whom the sustenance of a family depends, may privately steal, or boldly rob, from the cogency of domestic sensibility, without any vicious design to injure another: and such individuals are not irreclaimable; for such, to my knowledge, have been reclaimed.

*In vitium ducit culpæ fuga——**

HOR. Ars Poet. l. xxxi.

But the most effectual barrier against corruption of manners, and the influence of vicious example, is an early and guarded education. As the sun is to the external, so is learning to the intellectual eye; it enables the mind to distinguish truth from error, endows it with stability and strength to combat vicious propensities, and renders it susceptible of enjoying the felicities of life, without adopting its follies, or entailing its miseries. For the promotion of this useful education, Dr. FOTHERGILL was a liberal advocate. How much he contributed towards the seminaries of learning instituted at Williamsburg, New York, and Philadelphia, I am not particularly assured; but if the extent of his

* ——whilst one fault they shun,
Into its opposite extreme they run.

liberality

liberality may be estimated by the degree of gratitude and respect with which his memory is revered throughout America, it must have been ample.

In the wide stream of public good, he did not overlook the situation of his own religious persuasion; where his influences were most powerful, and where congenial minds were more united in promoting his laudable views. He had long endeavoured to institute an extensive establishment for the education of the children of the Society not in affluence; but nothing was effectually done, until, as Dr. Hird observes*, “ by one of those fortunate events, on which hangs the fate
“ of many great undertakings, the whole of his design became easy
“ and practicable. On his return from Cheshire, through Yorkshire,
“ in the year 1778; he did me the favour of being my guest a few
“ days, during which time he was visited by many of his friends in
“ those parts. In one of these interviews, the conversation turned on
“ an institution at Gildersome, a small establishment for the education
“ of poor children amongst the Society: the Doctor was inquiring into
“ its state and management, and how far it might serve as a model for
“ a larger undertaking: a just description being given of it, with the
“ following remark, that not only this, but all others, however laud-
“ able the motives from which they took their rise, must fail of success,
“ without a constant superintending care and unremitting attention to
“ the first great object of the institution. This idea was exemplified
“ by the then present state of the Foundling Hospital at Ackworth;
“ which, although originating from the most humane principle, and
“ erected at a vast expence, was, from repeated inattentions to the first
“ design, in danger of dilapidation, and ready for public sale. This
“ relation struck the Doctor forcibly: ‘ Why may not this,’ said he,
“ serve the very purpose I am in pursuit of?’ To be short, the building,
“ and an estate of 80 acres of land, were purchased, improved, and
“ furnished by subscription. The Doctor set a generous example by
“ his own contribution, and an endowment by his will in perpe-
“ tuity.”

* Affectionate Tribute, page 21, 22.

I have inserted this quotation, as it explains the incident which brought Dr. FOTHERGILL acquainted with this eligible situation, respecting which he afterwards expressed his warmest approbation, in a Letter to a Friend, which I have preserved in his Works. “ Though I had not seen the building,” he observes, “ I had seen and considered a plan of the house, and learned from that, and from the report of many who had been on the spot, that the building, the situation, the healthfulness of the country, the plenty of provisions, and the vicinity of many valuable friends, were such, that if it could be purchased, and properly endowed, it might, in many respects, answer the intention of friends, and lay the ground-work of an useful and permanent establishment. The children of friends not in affluent circumstances, are the objects of Ackworth School; the children of such persons, as must either provide for their offspring a very cheap education, or none at all. And there is great reason to believe, that the inability of many friends to make such provision, or to find any means of obtaining a safe education, has been the occasion of keeping their children at home, where it was impracticable to keep them at all times from corrupt company.” The human mind, it has been observed, must have some object in view; and if virtue and propriety do not engage it, vice and folly will: whatever, therefore, busies the mind, without corrupting it, has at least this use, that it rescues the day from idleness; and he that is never idle, will not often be vicious: and when habits of industry are confirmed by useful meditation, virtuous sentiments will be more easily inculcated; for, if Virtue could be seen, she must be loved; and if Truth could be heard, she must be obeyed.

Oderunt peccare boni virtutis amore.*

HOR. Epist. 16. l. i. v. 52.

The success of this School rewarded Dr. FOTHERGILL's well-grounded expectations. That ingenious writer, whose authority I have repeatedly appealed to, is particularly acquainted with the present state of this extensive establishment, as he resides in its vicinity, and has

* The good, for virtue's sake, disdain to sin.

thought

thought it so far an object of his attention, as personally to visit it; and his description, communicated in 1781, affords a pleasing prospect of its utility and probable permanency; and I may add, that its improved state, at the present time, affords further confirmation of its success. "There are," he observes*, "above three hundred children, of both sexes, under the roof, furnished with all the necessary conveniences and comforts of life, properly cloathed, and educated in every branch of knowledge suitable for the station in which it is presumed they may be placed. And, to the satisfaction of every benevolent heart, it may be truly said, that the institution is at present in a most flourishing state, fully answering the design of its founders; being conducted under the care of a number of chosen guardians, of ability, and of exemplary conduct, with an exactness of order, decency, and propriety, extremely striking, and perfectly pleasing to all who have visited it, though not of the same Society. —The children are taught habits of regularity, of decency, and respectful subordination to their superiors; of forbearance, affection, and kindness towards each other; and of religious reverence towards their Maker; and, I may farther add, those habits of silence and recollection, taught and practised in the ancient schools of philosophy, inculcated in the Scriptures, and most emphatically called, *the true door of entrance into the school of wisdom.*"

If Dr. FOTHERGILL's life had not been distinguished by a series of illustrious actions, this noble institution at Ackworth was alone sufficient to endear his name to posterity, by conferring upon subsequent generations the means of an useful education, which places out the virtues of youth to the best usury, where the interest is, of all others, the most productive and permanent; for education, when it works on an amiable disposition, draws out to view every latent virtue and perfection, which might otherwise lie dormant, or remain obscured; for

* Dr. Hird's Affectionate Tribute, page 22, 23.—I am sorry to add here, that this excellent physician and agreeable companion did not long survive this Tribute to his honoured friend and relation. At the time of his decease, he was physician to the Leeds Infirmary; in which office he has been succeeded by my friend and university colleague, Dr. Walker, a physician of distinguished abilities and humanity.

not to have reason, and to have it useless and unemployed, is nearly the same. This public action was consistent with the tenor of his life, and constituted one uniform system of philanthropy, where the heart melted with benevolence, and where the hand showered liberality*.

Gratum est, quod patriæ civem, populoque dedisti,

Sic facis ut patriæ sit idoneus, utilis agris,

Utilis——paci rebus agendis.

Plurimum enim intererit, quibus artibus, et quibus hunc tu

Moribus instituas——

Juv. Sat. xiv. l. 70.

In the days of superstition and ignorance, when persons of extensive literature were deemed extraordinary phenomena, whoever excelled in letters was distinguished from the common class of mankind, and viewed with that veneration which superior knowledge and endowment inspire; but as literature was diffused, men of letters having many equals, the peculiar distinction or pre-eminence of primæval times was less discernible. In the professors of physic, at present, not only the learning of the schools, but science in general, is a part of medical accomplishment. In an extent of science, equally diffuse and unlimited, it would be impracticable, as well as indelicate, to draw a comparison of living characters; nor could a certain criterion be deduced from supposititious reputation, which must always be partial: to estimate it by pecuniary emolument would be inadequate, because the product of the professors of physic cannot be accurately known; and if it could, the degree of practice could not thence be ascertained, as the liberality of individuals not only varies, but the moderation likewise of the faculty in accepting gratuities. That Dr. FOTHERGILL acquired much in the line of his profession, we know by the amplitude of his generosity; but the exact extent he never disclosed. Calculations sometimes have been formed from the time that has been devoted to business: with in-

* It must afford satisfaction to every friend of humanity to know, that in the establishment of Ackworth School, many congenial dispositions aided Dr. FOTHERGILL whilst he was living, and persevere to promote it since his death. In David Barclay particularly, whose name I have already mentioned, equal ardour is exerted, as there was before equal philanthropy and beneficence.

dividuals, whose moments are constantly employed, he will accomplish the most who is the best œconomist of time; and no time can certainly be better employed, than that which is devoted to sick and helpless friends. But were medical character to be decided by the œconomy of time, no man had a more decided claim to pre-eminence than Dr. FOTHERGILL: he made every moment important, by a wonderful regularity in his manners and in all his concerns, and his domestics had acquired a similar punctuality; and thus, by general order and system, not a moment seemed with him to be lost in relays, nor in his movements from one object to another. If some people live out half their days without numbering one, he estimated time too highly to say with the Roman Titus, *Diem perdidit*. If the length of time is to be measured by the quick succession of ideas, no man lived longer every day, or I may indisputably add, lived more usefully.

Ampliat ætatis spatium sibi vir bonus, hoc est

Vivere bis, vitâ posse priore frui.

MART.

Sometimes indeed it happens, that physicians have acquired much city practice, without any extent of reputation out of the vicinity of their residence; but with respect to Dr. FOTHERGILL, it may be safely asserted, that if he had not attained the first rank in town, he certainly had the most general reputation through the kingdom and colonies, of any contemporary physician. Whenever he went down to Lea-hall, or to any distance out of town, he was as constantly intercepted by a concourse of Valetudinarians, who had found means to get information of his route. In the year 1769, my excellent guardian, his brother Samuel, was indisposed during his visit in London; and as he was desirous of returning homewards, I was requested to accompany him to Lea-hall, and the Doctor proposed to follow us down soon after. I was then a student of medicine; but I could not avoid remarking the numerous applications made to us to ascertain the time of his passing through different stages. I think he once informed me, that he had upwards of fifty applications at one place in his journey: I have been his Amanuensis repeatedly for at least twenty patients at one sitting. At home, indeed, the present generation will not require to be told

that he had the confidence of the public as a physician; of his patients, likewise, as a near and confidential friend; and of the literary, as a respectful associate. He was chosen, in 1754, a Fellow of the Royal College of Physicians at Edinburgh, as he had early been of the Medical Society* instituted there, and since incorporated by royal authority; and in 1763, he was elected a Fellow of the Royal Society of London; and was one of the earliest members of the American Philosophical Society, instituted at Philadelphia.

Thus conspicuous as a physician in the first city in Europe, his character could not but be known on the continent, where science is cultivated with the same commendable ardour: Linnæus, the late botanical luminary of Upsal, had distinguished a species of *Polyandria Dyginia*

* Near fifty years ago, several students of medicine formed this Society, for their mutual instruction and advancement in their studies. "Every student of a certain standing, who distinguished himself by his diligence, capacity, and conduct, was initiated into this little assembly. Here the opinions of the ancients, of their contemporaries, nay the doctrines of their masters, were frequently discussed; and two of the members were always charged with the task of providing instruction and entertainment for the next meeting of the Society. Questions, no doubt, were here disputed and decided, which long experience would have declined. But it exercised their faculties, gave them both sides of arguments, taught them to doubt, and habituated them to observation." Dr. FOTHERGILL's Life of Dr. Russell, page 432 in this edition of his Works.

When one considers the utility, as well as high reputation of a Society, begun and conducted by students, curiosity is naturally excited to date the commencement of this singular and useful institution; which I am enabled to do, by the information of one of its first and most respectable members. In the latter end of August 1734, the under-written Gentlemen†, then fellow students in the Schools of Medicine at Edinburgh, who had

† Dr. Cleghorn. Dr. Cuming. Dr. Russell.

Dr. Hamilton, son to the then Professor of Divinity at Edinburgh; who having finished his studies, took his Degree there, publishing on that occasion a Thesis, *De Morbis Offium*.—He afterwards settled at Annapolis, in North Carolina, where he died many years ago.

Mr. Archibald Taylor, brother to a physician of that name at Edinburgh; an ingenious young man, who died a few years after in the East Indies.

Dr. James Kennedy; who after having taken his Degree in Physic, was invited to accompany a young gentleman of fortune in the Tour of Europe.—On his return home, after having spent three years in this employment, he purchased a commission in the army, and was for many years senior captain of dragoons.—Why Doctor FOTHERGILL was not associated into this little band, cannot now be recollected; but he was known to, and highly esteemed by, every one of the members.

been

Digynia by the name of Fothergilla Gardeni. In 1776 he was chosen an honorary member of the Royal Society of Medicine at Paris; for men of true science, of every nation, in the tumult of empires, are united in endeavouring to render mankind wiser and happier; they are always of one party; and the French, whose literary exertions reflect honour on the nation and on the age, instituted, in 1776, a Royal Medical Society; and, to render it more extensively beneficial, they have chosen honorary or corresponding members from the ingenious of all nations. Of the number in this kingdom, whose characters acquired the suffrages of this Society, was our late President: their address to him upon that occasion is marked with a spirit of true philosophy, which is not restricted within the limits of empires; and its insertion here must be acceptable to every liberal mind.

been long familiarly acquainted, and entertained a reciprocal regard for each other, after having employed themselves, during the three preceding weeks, in the dissection of a body in the Anatomical Theatre, agreed to spend a social evening together at a tavern.—After supper it was proposed, by one of the company, that this little Society should meet once a fortnight, early in the evening, at their respective lodgings; that a dissertation, in English or Latin, on some medical subject, at the choice of the Society, should be composed, and read at each of these meetings, to which such objections as occurred to the rest of the company should be made, which the author was to obviate in the best manner he could. This proposal was cordially assented to by all present; and Dr. Cuming was appointed by the other members to prepare a dissertation for their first meeting, on the signs, causes, and method of cure of the *Rabies Canina*: this he accordingly did, and read to the Society on the 20th of December following. Dr. Russell followed in one, *De Gonorrhœa virulenta*: then came Dr. Cleghorn, *De Epilepsia*; Kennedy, *De Fluxu Mensum*, &c.—This association continued during that winter, and the ensuing spring; but, in the summer of 1735, the members of this little Society were dispersed, and Cleghorn alone remained to continue, with his respected FOTHERGILL and some others, this association during the subsequent winter. This was the humble and fortuitous commencement of a Society, that has since become highly respectable by its obvious utility, and the names of many learned and eminent physicians which it records in the list of its members, and it is now incorporated by Royal Charter.

* " DOCTOR ILLUSTRISIME,

" QUAS hodie confociationis litteras offert tibi Regia Societas Medica Parisiensis, ego tantò libentius ad te mitto, quod dulcissimum et utilissimum epistolare commercium nobis procul dubio concedes, quodque mihi jucundissima maximè que proficua talis erit confraternitas. Institutionis edictæ dispositiones, inauguralemque simul orationem benignè cum hac epistolâ recipias velim. Plurimarum jam Academiarum codicēs condecorat immortale nomen tuum; sed in Academiâ ferè medicâ conscribi à consodalibus summæ existimationis testimonia recipere, tua famâ non indignum fore credidimus; ego que præsertim, vividissime gaudeo, quod locus ille quem in nostra Societate mihi concedit Rex Christianissimus Galliarum, frequentiæ meæ totius ergà te observantiæ specimina redditurus sit, istasque multiplicabit occasiones, in quibus me dicam semper,

" Doctor illustrissime,

" Obsequentissimum tui servum

LUTETIÆ PARISIARUM,

" et cultorem,

die mensis Decembris 1776.

" VICQ. D'AZYR."

P. S. Tantam

* " ILLUSTRIOUS DOCTOR,

" I the more willingly send you the letters of admission into membership, which the Royal Medical Society of Paris this day offers you, because we shall doubtless gain a most agreeable and useful literary correspondence with you, and because such an association and brotherhood will be extremely pleasant, and particularly useful to me. The edicts of the institution, the forms of it, and the inaugural oration, I wish you kindly to receive, together with this letter. Your immortal name is already an honour to the registers of many academies; but to be enrolled a member of an academy almost wholly medical, by the Fellows of it, and to receive the highest testimonies of their esteem, we thought would not be unworthy of your reputation; and I especially feel a very sensible pleasure in it, because the place assigned me in our Society by the Most Christian King, will enable me to render frequent proofs of my entire esteem for you, and will multiply those opportunities in which I shall always subscribe myself,

" Illustrious Doctor,

" Your most devoted servant

" and admirer,

" VICQ. D'AZYR.

P. S. The

“ P. S. Tantam tibi offert vovetque Regia Societas ut quales illi correspondentes, numerandos esse in tua provinciâ judicabitis, tales acceptura sit et libentissime pro suis sit habitura: si ergo institutionis nostræ fructus et commoda augere non recuses omnia quæcunque Societatis gratiâ facies, jucundissima et rectissima reputabimus. Age igitur, co-operatores inter amicos doctissimos que collegas quorum merita non noscimus, elige nobis, optima quæ detexerunt, quæque detexisti ipse sedulo communica medicæque correspondentiæ per te crescat utilitas et amplitudo, nos consocios, eidem philosophiæ studentes, ejusdemque veritatis amantes et æmulos reddat nova confederatio. Sese noscunt à longo tempore cæteri viri Litterati mediantibus academiis, medici vero nullo ferè nexu junguntur, celeberrimorum que tantum vix nomina callemus. Fiamus autem mutuis epistolis ex omnibus Europæ finibus correspondentes. Dein utinam, amici et quidquid eveniat uniti: medicina que tandem sit una ut Hippocrates, nec amplius, ut est hodie multiplex. Hæc sunt quæ sperat à te academica illa Societas, quam *tuam* dicere possumus quippe qui Socius ab eâ jam a plurimis mensibus denunciatus fuisti.”

“ P. S. The Royal Society places so much confidence in you, that the persons you shall judge proper for their correspondents, within the sphere of your acquaintance, they will receive, and very readily esteem them as such: if, therefore, you do not refuse to augment the fruit and advantages of our institution, we shall esteem whatever you do for the good of the Society as highly agreeable, and to be depended upon. Let me entreat you then to chuse out for us assistants and copartners amongst the most learned of your friends and colleagues whose merits we do not know, and diligently to communicate their best discoveries, and what you yourself have discovered, that so the usefulness and extent of medical correspondence may be encreased, and a true confederacy render us brethren, students of the same philosophy, and zealous lovers of the same truths. The living Literati in other arts and sciences have for a long time, by means of academies, been acquainted with each other; physicians are scarcely connected by any tie, the bare names of the most illustrious among them being hardly known. But let us establish correspondents by mutual letters in every part of Europe. And lastly, I wish that we may be friends, and united together, whatever may happen*: medicine then would be uniform, and but one in all places, as Hippocrates wished it to be, and not as it is at present, divided into parties. These are the things this academic Society wishes to promote, and which we may now call your Society, seeing you have been declared a Fellow of it for some months.”

* Probably referring to the commencement of the war.

Dr.

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Dr. FOTHERGILL had now attained the zenith of medical reputation: in national concerns; or public calamities from disease, his opinion was sought after, and as uniformly adopted. When the British House of Commons was informed of the dreadful fatality of the gaol distemper, among the French and Spanish prisoners confined in Winchester, Dr. FOTHERGILL's opinion was instantly taken upon the subject, and he recommended Dr. J. Carmichael Smith to superintend the prison, to avert, if possible, the spreading contagion;—the singular success of whose attendance, whilst it did honour to Dr. Smith's medical knowledge, reflected no less upon Dr. FOTHERGILL's discernment in the choice of an able physician, as the following report from the Office for Sick and Wounded Seamen will fully justify.

A Weekly progressive State of the Sickness and Mortality among the Spanish Prisoners, confined in the King's House at Winchester; from the first Appearance of the Jail Distemper, until the 8th of July 1780.

Date of Weekly Accounts.	Number of Spanish Prisoners.		
	In Custody.	Sick.	Dead.
March 26, 1780	1247	60	1
April 2, —	1243	106	4
9, —	1475	150	10
16, —	1457	172	18
23, —	1433	142	21
30, —	1412	171	21
May 7, —	1388	191	25
14, —	1351	197	27
21, —	1523	205	30
28, —	1494	226	31
* June 3, —	1461	262	33
10, —	1437	212	26
17, —	1426	173	9
24, —	1420	167	5
July 1, —	1414	143	5
8, —	1433	122	2

* The time of Dr. Carmichael Smith's going to Winchester.—It would prove highly useful to the public, were this ingenious physician to communicate his method of treatment, which was attended with such obvious success. A prisoner is an object of compassion in every point of view.

Long before this period, it is well known that the Empress of Russia, with a spirit of freedom and resolution, which added lustre to her dignified station, resolved to receive the small-pox by inoculation; and having heard of the Suttons as celebrated in this department, ordered her ambassador at the British court to send an experienced person to Petersburg to perform the operation. When this order arrived, Dr. FOTHERGILL was consulted; and by his influence, and by his alone, the life of the empress was entrusted to a physician (Doctor, afterwards Baron Dimisdale) whose experience entitled him to this distinguished employment. When Dr. FOTHERGILL related this circumstance to me, he mentioned it merely as a matter of confidential information, without appearing sensible of the influence and importance of his extensive reputation.

But a life thus spent in the conscientious discharge of every duty, and the uniform practice of every virtue, could not shield him from the misrepresentations of envy, malevolence, and avarice, as the accusations of two persons, at different periods of time, amply proved. Those who have been acquainted with Dr. FOTHERGILL, during the last ten or twelve years of his life, must know that I allude to the prosecution commenced against him by one, for a supposed injury; and to the partiality of which he was accused by the other, in adjusting a difference between him and a respectable Baronet. Of these transactions it is unnecessary here to enter into a minute detail: the decree, pronounced on the former case by that learned and sagacious judge, the Lord Chief Justice of England, most honourably justified the character of our late President from every imputation of wrong*; and his own pen † not only entirely vindicated him from every aspersion of partiality and injustice thrown upon him by his accuser, but also exhibited most exemplary instances of candour, liberality of sentiment, and generosity.

Persons, whose stated employments preclude the enjoyment of leisure, naturally acquire a habit of brevity in the dispatch of their concerns: in conversation they apply immediately to the subject of discussion;

* See Gentleman's Magazine, November 1781.

† Introductory Remarks on the Preface of Parkinson's Journal of a Voyage.

in writing, they compress much in a small space. In addition to this kind of compulsive dispatch, acquired by the urgency of important transactions, Dr. FOTHERGILL possessed a remarkable quickness of perception; and, what is unusual with vivacity of mind, united solidity of judgment. Those who did not personally know him, must form the same opinion of him, from the display of genius and sagacity in his early publications. Some of these I have already adverted to; and to them I might add his early essays in the Gentleman's Magazine for 1751, and the three subsequent years.

His pieces in the Medical Enquiries, a publication which commenced in June 1757, and is still continued, have been read by the Faculty universally, and always with approbation, as they contain facts that cannot be too well known; and wherever they are known, they will be adopted, with as little exception, at least, as can be supposed to arise in an improving art. If his language was not always minutely correct, probably owing to want of time, it was easy and fluent, and, what in such compositions is more valuable, it was accurately descriptive.

His epistolary writing was instructive and sprightly. As he was not confined to the didactic solidity of medical disquisitions; where knowledge is passive, and genius superfluous, and where facts and experiments, rather than ornament and elegance, are the leading objects, his language was less restrained; it was more brilliant, but less correct; it was more varied and amusing, and at the same time it was chaste and instructive; and, like his conversation, the same sentiments were conveyed, in a liveliness of colouring and frankness of expression, that in any other point of view might have afforded no emotion of pleasure, or proof of superior endowment. There was indeed a charm in his converse and address, as hath been ingeniously remarked, that affected some with a transport of admiration, and commanded the high regard and opinion of those who employed him; whilst, by a discreet uniformity of conduct, he so fixed the capriciousness of mankind, that he was not apt to forfeit the esteem he had once acquired. His mind was of that happy versatility, that he could easily break off from important concerns, and enter into a familiar and pleasant conversation, with all the indifference
of

of a man of leisure; and as easily resume the variety of his serious engagements, as if they had never been interrupted*.

Hilarisque, tamen cum pondere, virtus. STAT.

As the highest stations are exposed to peculiar inconveniences, so the brightest genius is not unfrequently clouded with a counterpart: the mind that is endowed with the quickest perception, whilst interested in multifarious concerns, is not only liable to acquire a habit of deciding hastily; but a tenaciousness of its decisions. In this epitome of Dr. FOTHERGILL's character, I have endeavoured to delineate the outlines with impartiality, to appreciate his faults as well as his virtues: and, though the brilliancy of the latter hath shone through the clouds of the former, I consider this promptitude of adopting an opinion, and tenacious retention of it, as the most censurable part of a life (so far as I know, and I knew it well) otherwise blameless. Perfection is scarcely the lot of humanity; and in extenuation of this disposition it might be argued, that whilst he formed a hasty, his solidity of judgment prevented a wrong, determination: like the ballast of a ship, it kept steady the sails that were exposed to the sudden gusts of a storm. This failing, however, such as it was, has been sometimes remarked by the Faculty, in consultations with the Doctor, and remarked with censure; and whoever has been honoured and consulted for a series of years as a medical oracle, must have attained that experience, which affords the best presumption for firmness of opinion: but were the censure well founded, happy is the man, and happy the patients of that physician, who passeth through life with so much undeviating rectitude!

In this place, I cannot but gratefully recall to mind how much I owed to my deceased friend, when I left Europe to revisit my native island: it must be admitted, that though after seventeen years absence, I returned to the bosom of my relations and of my friends; yet, as a medical man, my character was solely reflected from the patronage of

* Dr. Thompson's Life and Character of Dr. FOTHERGILL, page 29, 30.

Dr. FOTHERGILL, whose name was as familiar throughout North America, and the Antilles, as in London.

With respect to political affairs, as connected with those of North America, he had long formed a decided opinion. “Whether we look at the well-being and content of near two millions of English subjects on that continent, descended from and connected with ourselves; or weigh the effects which their discontent and unhappiness must unavoidably produce on this country, scarce a more important object can present itself to an Englishman.”

Without entering into the causes and effects of a contest, which it is now our irretrievable misfortune to lament in vain, it was from its commencement the strenuous advice of Dr. FOTHERGILL, to treat our trans-atlantic brethren with a leniency due to fellow-subjects, whose rights and privileges being the same, entitled them to share in the prosperity and the enjoyments of the whole empire. “If we enquire,” he observed, “into the conduct of the wisest states to their distant colonies, we shall find it always to have been, to treat them with kindness and indulgence, to engage them to look back to the mother country with duty and affection, and to recompense the protection they have enjoyed by the produce of their labours, their commerce, and, when needed, their assistance. We meet not with many instances, comparatively, even of distant conquered countries revolting, till causes of strong disgust had sown the seeds of discontent, and succeeding acts of oppression and injustice had ripened them into rebellion.”

“Colonies sprung from Britain,” he observed, “will bear much: but it is to be remembered, that they are the sons of freedom; and what they have been early taught to look upon as virtue in their ancestors, will not soon be forgotten by themselves: nay, they will the sooner be apt to vindicate their wrongs.”

As he was of opinion, that whatever the motives of their migration may have been, the effects of this migration have undoubtedly been signally beneficial to this country; and therefore, if any distinction were to be made, a particular distinction was due to these distant subjects, whilst harsh and ungracious treatment would make them desirous

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of forgetting that they are of English descent, lessen their duty and allegiance, and induce them impatiently to look forward to that independency, which their situation favours; and this the more eagerly, in proportion to the prejudices they have imbibed against a government they think oppressive.

Unfortunately for this country, those measures which the Americans deemed oppressive, were eagerly pursued; and what Dr. FOTHERGILL, and most men who were acquainted with the continent and its inhabitants, early predicted, he lived to see realized.

Uniform as he was in opinion respecting the political objects which so long convulsed the empire, he was either misrepresented or not understood. He was so accurately informed of the power of America, and with the wishes of some of the principal of its inhabitants, that, long before the fatal transaction at Lexington, he foretold, as probable consequences of the projected measures, many of the great events which time has since evolved. If a man is censurable for the accomplishment of his predictions, Dr. FOTHERGILL was certainly so; but were such reasoning admissible, all the great characters of sacred and general history, whom we have been hitherto accustomed to reverence, must fall under a similar predicament: if their sagacity, or their superior information, had enlarged their views, and enabled them with precision to estimate the result of certain actions, the rulers to whom they communicated their observations, and who, possessing the power, but being perhaps otherwise informed, did not take adequate precautions to prevent what had been foretold, have been deemed answerable for the event. I can venture to assert, that no man laboured more anxiously than Dr. FOTHERGILL did, to prevent what he predicted as eventual from the prosecution of certain measures—the dismemberment of the empire.

As he had access, by his profession, to families of the first distinction, he embraced occasional opportunities of suggesting his opinion of the prevailing system of politics, and the effects most likely to result from the prosecution of it: but although his advice was not adopted, I do not hence infer that the governing powers were censurable; my intention in introducing these observations, is to elucidate Dr. FOTHER-

GILL's political conduct respecting the contest between Great Britain and America, and clear it from the misrepresentations of persons less intimately acquainted with him; and this affords a sufficient apology for communicating to the public the following narrative of facts, stated from authentic papers that are now in my hands; leaving to the decision of the public, whether Dr. FOTHERGILL did not act the part of a true patriot, and a real friend of the constitution.

In the latter end of the year 1774, previous to the departure of Dr. Franklin out of this kingdom, an intimate friend of Dr. FOTHERGILL being in company with a nobleman of great political experience, between whom the conversation turning on the critical situation of the American colonies, he pressed this gentleman to attempt a compromise with Dr. Franklin, before his intended departure; and he accordingly undertook it, from a cordial wish to promote a permanent reconciliation between the two countries: on this account he immediately applied to Dr. FOTHERGILL, who heartily united in this undertaking; and they mutually invited Dr. Franklin to a conference the same evening, and Dr. Franklin as readily accepted the invitation. This triumvirate, zealous for the welfare of both nations, devoted many hours to the important subjects of deliberation; and, after much discussion, it was mutually agreed, that they should meet again on the succeeding evening, when Dr. Franklin should commit to paper such a conciliatory plan as he conceived America had a right to expect, and that the other two, as Englishmen, should then object to such claims as they might judge Great Britain ought not to grant.

On the appointed evening, Dr. Franklin produced the following propositions (see A.); and those lines which appear in italics were objected to by Dr. FOTHERGILL and his colleague, and which Dr. Franklin gave up, and suffered to be expunged.

In this state a copy was taken, and imparted for negociation; and the answer was, that the propositions were such as appeared to demand too much; and in consequence several attempts were made to reconcile the subjects of contention: but as the 12th article of the propositions was insisted on by Dr. Franklin, though many of the others were ac-

ceded.

ceded to, the negociation was broken off, and in a short time afterwards Dr. Franklin embarked for America.

The man of urbanity, who reflects upon the fatal carnage of 100,000 victims of war, drawn from the loom, and from rural tillage; and with it the fruitless expenditure of 100 millions of money, must unavoidably regret, that the laudable exertions of the physician and the patriot were thus unhappily frustrated. Seeing, however, though distantly, the impending danger, he persevered in the same line of conduct, and renewed his endeavours to stop the effusion of blood, and to reconcile the contending parties, as will appear by the following letter, marked (B), which he wrote in 1775 to a noble Lord.

In 1780, Dr. Franklin wrote to Dr. FOTHERGILL's colleague the subsequent letter, marked (C), which I introduce to corroborate the above narrative.

In the preceding year Dr. FOTHERGILL published a pamphlet, intitled, "An English Freeholder's Address," which I have preserved in his Works: it contains sentiments further explanatory of his political character; sentiments that will ever be revered.

(A.)

HINTS for Conversation, upon the Subject of Terms that may probably produce a durable Union between Great Britain and her Colonies.*

- 1st. THE tea destroyed, to be paid for.
- 2d. The tea duty act to be repealed, *and all the duties that have been received upon it to be repaid into the treasuries of the several provinces from which it has been collected.*
- 3d. The acts of navigation to be all re-enacted in the several Colonies.
- 4th. A naval officer, appointed by the crown, to reside in each colony, to see that these acts are observed.

* The Editor conceives the following propositions to contain all the grievances comprized in the petition of Congress to the King, brought over by Governor Penn in 1775.

5th. All

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5th. All the acts restraining manufactures in the Colonies, to be reconsidered.

6th. All duties arising on the acts for regulating trade with the Colonies, to be for the public use of the respective Colonies, and paid into their treasuries.

7th. The collectors and custom-house officers to be appointed by each governor, and not sent from England; the present officers to be continued only during each governor's pleasure.

8th. In consideration of the Americans maintaining their own peace establishment, and of the monopoly Britain is to have of their commerce, no requisition to be made from them in time of peace.

9th. In time of war, on requisition made by the king, with consent of parliament, every colony shall raise money by some such rule or proportion as the following: viz. If Britain, on account of the war, pays as high as 3*s.* in the pound to its land-tax, then the Colonies to add to their last general provincial tax a sum equal to (suppose $\frac{1}{4}$) thereof; and if Britain, on the same account, pays 4*s.* in the pound, then the Colonies to add to their said tax a sum equal to (suppose $\frac{1}{2}$) thereof; which additional tax is to be granted to the king, and to be employed in raising and paying men for land or sea service, furnishing provisions, transports, or for such other purposes as the king shall require and direct: and though no colony may contribute less, each may add as much by voluntary grant as they shall think proper.

10th. No troops to enter, and quarter in any colony, but with the consent of its legislature.

11th. Castle William to be restored to the province of the Massachusetts Bay.

12th. The late Massachusetts and Quebec acts to be repealed, and a free government granted to Canada*.

13th. The extension of the act of Henry VIII. concerning treason, to the colonies, to be formally disclaimed by parliament.

14th. The American Admiralty courts reduced to the same powers

* These acts include the Boston port bill; the alteration of the charters of the Massachusetts Bay; and, the extension of the limits of Canada.

they have in England, and the acts relative to them to be re-enacted in America.

15th. All Judges in the king's colony governments to be appointed during good behaviour, the Colonies fixing ample and equally durable salaries: or, if it is thought best that the king should still continue to appoint during pleasure, then the colony assemblies to grant salaries during their pleasure, as has always heretofore been the practice.

16th. The Governors also to be supported by voluntary grants of the assemblies, as heretofore.

17th. *All power of internal legislation in the Colonies, to be disclaimed by parliament.*

The following letter, which covered that above referred to, marked (B), evinces the pains Dr. FOTHERGILL took to prevent that disunion of the empire he had predicted and feared; and upon this account, short as it is, I insert it here: it was addressed, under cover, to his colleague in the transaction with Dr. Franklin.

"DEAR FRIEND,

"I CAME home last night at ten o'clock extremely fatigued. I could not forbear giving, perhaps, a very strong proof of it. If the enclosed remarks are worthy of the least notice, or any part of them, I wish we could see one another this morning, any time before nine o'clock.

J. FOTHERGILL."

8th of the 10th mo. 1775.

(B.)

"THE following sketch will shew rather my wishes than my hopes, of seeing the most certain, speedy, and honourable means of effecting the proposed measures.

"To send as speedily as possible some person or persons, on whom Government may rely, and who are not unknown to some of the leaders

of

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of the Congress, and on whose character and probity they may have some dependence, to propose to them,

“That an act shall be passed this session, virtually repealing all the blameable acts, by declaring that the Colonies shall be considered as being governed by the same laws, or placed in the same situation as they were in in the year 1762.

“That in consequence of this declaration, if accepted by the Congress, the same persons shall have instructions to the commander in chief to cease all hostilities.

“That a general amnesty shall be declared, all prisoners released, the provincial forces be disbanded, and the ports reciprocally opened for both countries.

“That these preliminaries being fixed, instructions shall be sent to the several governors, to convene the assemblies, and require them to chuse two or more delegates, to meet a proper number of commissioners from England, at New York, and there to settle the due limits of authority on this side, and submission on theirs. The sword will never settle it as it ought to be. Submission to force, will endure no longer than superior force commands submission;—interest only can make it perpetual: and it is the interest of Britain that the union should be perpetual, be the present sacrifice what it may.

“The mode of proceeding in the union between England and Scotland may be adopted, so far as circumstances require; that is, the different conditions of the contenders considered. The objects are in most respects very different. From Scotland this country had chiefly in view negative advantages—that the Scots should not be any longer the tools of other powers, to work with to our undoing. From America we have every possible advantage to hope for; not only the benefits of commerce, but their power to protect us*. No power in Europe, who

*“Let it be considered, that Scotland is reputed to contain but about one million and a half of people—America almost three millions: that Scotland is not supposed to encrease in population—America, by population, and emigrants from other countries, becomes double every twenty-five years:—therefore, that the present state of America claims something more than Scotland could claim at the Union, both in respect to numbers and future benefit.”

knows its interest, and has any possessions in the western world, will chuse to offend us, whilst we and America are united; because those possessions are immediately subject to the powers of America, directed by us:—what those powers are we now know full well by experience. Every distant possession of every power in Europe, is a pledge for the good behaviour of its owner to Great Britain.—Is any object we are now contending for, an equivalent to such an extensive and most certain influence?

“ It is therefore much to be wished, that some such persons might be pitched upon, and sent out, rather in a private character, as friends to both countries, than with a public authoritative commission: for if those who are now invested in America with power, should *distrust* them, the business is at an end; and this country and that are left exposed to all the distresses, which are only beginning to be felt by both.

“ Administration may think it an easy matter to avert any storm which may arise from a discovery that they have been misled, misinformed, and grossly abused, by those on whose opinion they had too confidently relied.—This, however, may admit of some doubts; and I have too much regard for many of those who compose it, to wish the experiment may ever be made.

“ Let it be considered, that every provocation we give widens the breach; that the Americans have fully shewn they are the descendants of Englishmen; and if they are warm and impetuous like us, like us also they are placable; and instead of endeavouring to subdue them by force to a condition unworthy of our fellow-subjects, our countrymen, and our relations, let us open the shortest road to a speedy, honourable, and effectual reconciliation.

JOHN FOTHERGILL.”

(C.)

*Copy of a LETTER from Dr. FRANKLIN to **, dated Passy,
Feb. 12, 1781.*

“ DEAR SIR,

“ I CONDOLE with you most sincerely on the loss of our dear friend Dr. FOTHERGILL. I hope that some one that knew him well,

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will do justice to his memory, by an account of his life and character. He was a great doer of good. How much might have been done, and how much mischief prevented, if his, your, and my *joint endeavours*, in a CERTAIN MELANCHOLY AFFAIR, had been a little more attended to!

With great respect and esteem,

I am, &c.

B. FRANKLIN."

A mutual friendship had early commenced between Dr. FOTHERGILL and Dr. Franklin, and continued to the death of the former. Dr. Franklin, to whom I am under obligations for many civilities formerly, has since augmented them by his late very obliging communications; and the following extract of a letter is so applicable to the subject of my narrative, that I shall insert his own words, as the most honourable and expressive testimony of his regard for his deceased FOTHERGILL.

" Our late excellent friend was always proposing something for the
 " good of mankind. You will find instances of this kind in one of his
 " letters, which I enclose *, the only one I can at present lay my hand
 " on. I have some very valuable ones in America, if they are not
 " lost in the late confusions. Just before I left England, he, in con-
 " junction with Mr. ** and myself, laboured hard to prevent the
 " coming war, but our endeavours were fruitless. This transaction
 " is alluded to in the first page. If we may estimate the goodness
 " of a man by his disposition to do good, and his constant endeavours
 " and success in doing it, I can hardly conceive that a better man has
 " ever existed †."

* In this letter Dr. FOTHERGILL introduces the subject of this negotiation; and, among other pertinent reflections, he suggests the importance of an uniformity of weights and measures throughout the continent of America; taking it for granted, as he long foresaw, that she would become independent. To make these more familiar, he recommends that they should be framed of numbers easily divisible, as 4, 8, 16, 32, &c.

† Letter to the Editor, dated Passy, March 17, 1783.

Whilst

Whilst he thus early disapproved those political measures which have since been generally reprobated as eventually ruinous to the empire, and long afterwards expressed his sentiments to a friend of his in Yorkshire, previous to the general assembly of the county, held on the 30th of December 1779, he uniformly mentioned his sovereign in the most respectful language; it was not on men, but on measures, that he animadverted. Henry Zouch, of Sandal, in Yorkshire, a clergyman, and a justice of the peace, of distinguished reputation, was this intimate friend (and he was worthy of his confidence) to whom he addressed the following letter, which I am informed was read in a committee of the above meeting, and met with the most pointed approbation; which induces me to think that its insertion here will be acceptable to the reader.

“ THOUGH I am very apprehensive that the subject of this letter will be of very little consequence, yet I could not easily forego an opportunity of mentioning to thyself some sentiments that have occurred to me in respect to the very important meeting about to be held at York.

“ I know my voice is feeble and insignificant; but being a native of the county, and having a great regard for it, on this and many other accounts, I think I ought not to be totally silent on so important an occasion, though I know there are so many persons will be present; who, in every respect but one, I acknowledge to be greatly indeed my superiors;—that one is, a disinterested and impartial regard for the good of my native county, and the influence it will hold in the great national business that will come before you.

“ If the motions made for retrenchments in expence are to be the basis of your deliberations and petitions, I think them altogether unworthy;—all that could be obtained in these retrenchments, either by savings to the public treasury, or abridging the power of the crown, are beneath the notice of such an assembly, even were you sure of obtaining all you have in contemplation.—I am morally certain you will obtain nothing; and every unsuccessful contest disheartens the vanquished, and in proportion adds vigour to the conqueror.

“ Have we not seen this to be the case, in all the petitions and remonstrances that have been presented? and is it not most certain that the majority will be doubly firm against you, as their interest is so much at stake?

“ I consider these motions as well intended, and they may be followed by others equally æconomical and wise; but they will all be rejected, and those who have stood forth in their support be discouraged.

“ There is one necessary point, which I think you ought in the first place to state most clearly—the general decay of the county—and keep close to your own; manufactures declining, commerce languishing, value of land decaying, all public improvements at a stand, bankruptcies numerous, taxes encreasing, multitudes distressed; and, was it not for the late favourable seasons, universal poverty and wretchedness must have taken place. Pray, therefore, that peace may be restored between us and America, as the only means of saving your county from every species of calamity;—the war with that country, and its consequences, having been the general causes of these distresses.—I do not mean that these expressions should be used; you will find much better: but if you do not lay the axe to the root, in vain do you attempt the branches.

“ Let not a single reflection on the King or the ministry escape you—I mean not to appear in your petition. The acrimony that loaded the American petitions, and disgraced many of our own, have done unspeakable mischief; I beg therefore, and earnestly entreat, that every degree of invective may be shunned. Produce your facts, and state them in the clearest light; but if you mean well to your country, and wish to see an example followed in other counties, shun every thing offensive. As there is no great room for flattery, so neither give way to the reverse temper;—if you do, posterity may load your memories with deserved reproach.

“ Forgive me for thus offering my sentiments to men much better informed than myself; but it is my firm opinion, from the knowledge I have of the temper of those who must be the judges of your petitions, that so sure as you deviate from a line of language, temperate yet firm, so sure will you shut a door more closely against all that
you

you can urge;—and what must be the consequence? A perseverance in the same measures, to do despite to those who condemned them. Once more, therefore, let me entreat that every thing manifestly offensive in language may be studiously avoided; that no bagatelles may be asked for, but the removal of the great cause of expence—the war with America: the lesser arrangements of œconomy may then be solicited, and these only take place at the decease of the present occupants.

“ Once more excuse me, if I am taking a liberty unbecoming me;—the honour of our county, the good of the country in general, are at stake. If you ask for what is evidently great and right, your example will be followed by all; if you ask for things which you know beforehand will be refused, let your numbers be ever so great, you may possibly meet with many counter-petitions, and an attempt for general reformation be stifled in its infancy.

“ J. FOTHERGILL.”

London, 8th of the 10th mo. 1779.

With a natural attachment to his native country, strengthened by every tie of interest and connection, and confirmed by his writings and patriotic exertions, yet, in the philanthropy of his breast, his affections expanded beyond the confines of empire. The Christian Patriot, whilst he directs his views to one universal Parent, and contemplates his unlimited goodness, feels his regard extended to all his creatures; and in the individual enjoyment of blessings, he delights in their universality and reciprocity.—Man was formed to be happy; and would be so, were the policy of nations directed to the communication of mutual benefits. In a small community it is ever found, that the happiness of individuals will be in proportion to the sum of happiness of the whole; and national felicity will be proportioned by a similar scale. No man has the power of encreasing his own happiness, beyond the necessary and common enjoyments of life, by any other medium, than by that of benefiting his fellow creatures; and the true policy of an individual might become the true policy of nations, were national policy subservient to reason and religion.

In this view, no language can be more impolitic and irrational, than
that

that which inculcates the existence of the *natural* enmity of nations. We know that the wolf, impelled by hunger, becomes the *natural* enemy of weaker animals; but man, whose passions ought to be humanized in the school of Him who invariably recommended *Peace on earth*, can never become the *natural* foe of man. The different habits of nations, and the variety in their productions, naturally point him out as the friend of his own species; and were religion of no avail, interest, one might imagine, would urge him to the communication of mutual benefits.

If we select an example, where habit has rendered the language of *natural enemy* familiar to national prejudice, even France might be united to us by interest and friendship, were we to encourage a mutual intercourse in trade, instead of interdicting it by the severest restraints. Whilst she takes off our Woollens, our Hard-ware, and other heavy articles of manufacture, we might receive in exchange her Laces, her Wines, and other articles, which the gaiety of the people, or the constitution of the soil, seem better adapted to produce. Mutual interest being thus created by nature, and established by the communication of mutual advantages, we should become *natural friends*; at least, that enmity, to which so many thousands have been sacrificed, would no longer exist.—Thus I have heard Dr. FOTHERGILL reason; and may his spirit descend upon the rulers of the earth!

The manufacture of our fine Laces, which is carried on with such sedulous industry in some parts of England, and particularly in Buckinghamshire, supports indeed many poor families; but the employment, instead of being ultimately beneficial, may really prove injurious, neither suiting the constitution of this country, nor the genius of the people: those engaged in it, as well as in the manufactory of gauzes, &c. as I am informed, already appear like another race of people; that vigour and strength which distinguish'd the labouring poor of this kingdom from those of every other, is sunk down into pallid debility. It is true, that women and children are chiefly occupied in these sedentary employments; but it is from these enervated females that the next generation is to spring!

Even in the contracted spirit of national policy, if we have any rivals

or *natural enemies*, it cannot be true policy in us to rob them of those employments that debilitate the labourer, and consequently his offspring; but rather to encourage among them such sedentary manufactories, whilst in return they exchange our wrought iron, and other products of athletic industry, which at the same time conduce to preserve that health and vigour, upon which personal happiness and national strength so much depend.

When a man hath distinguished himself by extraordinary efforts of genius, and gained the summit of popular fame, we naturally wish to be acquainted, not only with the most interesting circumstances of his life and character, but even those which may be trifling in themselves, and which by no means would bear to be recorded, did they refer to persons of little fame; yet, when connected with a character that hath excited our admiration, or with works that we have contemplated with delight, they derive a kind of adventitious consequence from their relation, and are sought after with more avidity than greater matters of lesser men*. This sentiment, doubtless, induced the writer † of “An Affectionate Tribute” to give the subsequent relation of Dr. FOTHERGILL’s dress, address, and manner of living; which I shall literally transcribe, for the information of such as never enjoyed his acquaintance.

“The person of Dr. FOTHERGILL was of a delicate, rather of an extenuated make; his features were all character; his eye had a peculiar brilliancy of expression, yet it was not easy so to mark the leading trait, as to disengage it from the united whole. He was remarkably active and alert, and, with a few exceptions, enjoyed a general good state of health.—He had a peculiarity of address and manner, resulting from person, education, and principle; but it was so perfectly accompanied by the most engaging attentions, that he was the genuine polite man, above all forms of breeding.—I knew him well, and never knew a man who left such pleasing impressions on the minds of his patients.

“His dress was remarkably neat, plain, and decent, peculiarly becoming himself; a perfect transcript of the order, and I may add, the

* Monthly Review, vol. lxxv. p. 443.

† The late Dr. William Hird.

neatness of his mind.—He thought it unworthy a man of sense, and inconsistent with his character, to suffer himself to be led by the whim of fashion, and become the slave of its caprices.—But this impression upon his understanding was much strengthened by his firm attachment to his principles as a Quaker, which lead to that decent plainness and modesty in dress, which may be presumed to be one, at least, amongst the external evidences of a spirit elevated in its views above all transient and sublunary things.

“ At his meals he was remarkably temperate; in the opinion of some, rather too abstemious, eating sparingly, but with a good relish, and rarely exceeding two glasses of wine at dinner or supper: yet, by this uniform and steady temperance, he preserved his mind vigorous and active, and his constitution equal to all his engagements*.”

Religion, when it works upon the heart, and subjects the passions to the exercise of beneficence, generates all those attractive graces, which can be acquired by no other medium. Rules of exterior imitation may be delineated with the elegant pencil of a Chesterfield; but the purity of the heart is the genuine source of true politeness: for that religion, which breathes *good-will unto man*, whilst it refines the understanding, and softens the affections, begets that complacency from which necessarily result those amities, and that unaffected politeness, which alone should form the gentleman; such as the Scholar should cultivate, and the Christian recommend; and these rendered a FOTHERGILL beloved, respected, and illustrious.

But the time was approaching, when neither temperance nor virtue could exempt our valuable associate from the final lot of humanity. For a series of years, indeed for the most part of his life, he had enjoyed good health, and time seemed slowly to diminish the vigour of his body, or weaken the exertion of his mind; but it was perceptible to those who were much with him, and what he often remarked himself, that fatigue became less supportable, and recruit of strength, in his annual retreats into Cheshire, was of late years more slowly acquired. There are many causes, besides those resulting from advancing age,

* Page 27, 28.

which

which diminish the constitutional vigour and vivacity of a feeling mind; his was sensibly awake to all the endearments of brotherly affinity: he had lost his youngest brother Joseph, and afterwards his brother Samuel, both of Warrington; the latter my paternal Guardian, by whom I was early introduced to the protection of the physician: it was these relatives, and others in the vicinity, that first induced him to retreat to Lea-hall in Cheshire, which is but a few miles distant from Warrington. These successive losses sensibly affected his mind, and interrupted that constitutional benefit, which he had formerly experienced. From this time many of his letters from the country testify the depth of his grief, and the irreparable chasm of enjoyment which he had thereby sustained:

*Quis desiderio sit pudor, aut modus
Tam chari capitis! —* HOR.

In 1772, some months after the decease of his brother Samuel, “ I have been obliged,” he remarks from Lea-hall, “ to write many letters, which I am at present very unfit for, or any thing else: but I will not spend all in unavailing complaints. I meet with many things to put me in mind how much I have lost; and I feel such a void in my enjoyments of this life, as reduces my wishes to a great mediocrity indeed *.”

In a succeeding year he acquaints me, “ that he came down to Lea-hall much oppressed: and now I am here,” he adds, “ I have enough to do to command myself, when I recollect my brother, whose countenance, counsel, and sympathy, relieved every anxiety, gave taste to every enjoyment; but I will try to banish every thing, but a wish to follow him through the remains of this life, with submission to every difficulty, and gratitude for many many blessings †.”

I have the rather indulged these digressions, as they recal to mind the virtues of my deceased guardian, the want of whose counsel, if Dr. Fo-

* Letter to the Editor, anno 1772.

† Ibid. anno 1774.

xc SOME ACCOUNT OF THE LATE

FOTHERGILL, with a comprehensive understanding rarely to be equalled, could so deeply lament, what must the public have sustained when this god-like man was no more? for, if this sacred appellation may be applied to him who devotes his life to render mankind wiser and happier, I have ample sanction for adopting it on the present occasion; and more particularly as he was so nearly connected with the immediate subject of my narration*: but the progress of solicitude upon the mind, which is not the result of remorse, is always slow, and rarely fatal; and the disease under which Dr. FOTHERGILL finally suffered, was certainly independent of this source. It was about the middle of November 1778, that, on waking out of a short sleep, a forcible inclination to make

* This pious man, a little before his death, addressed the following expressions to some of his relations, when they took leave of him, previous to their setting out for the Yearly Meeting in London, anno 1772.

“ Our health is no more at our command; than length of days;—mine seems drawing fast towards a conclusion, I think: but I am content with every allotment of Providence, for they are all in wisdom—unerring wisdom. There is *One Thing* which, as an arm underneath, bears up and supports; and though the rolling tempestuous billows surround, yet my head is kept above them, and my feet are firmly established.—Oh! seek it—press after it—lay fast hold of it.

“ Though painful my nights and wearisome my days, yet I am preserved in patience and resignation.—Death has no terrors, nor will the grave have any victory.—My soul triumphs over death, hell, and the grave.

“ Husbands and wives, parents and children, health and riches, must all go;—disappointment is another name for them.

“ I should have been thankful, had I been able to have got to the ensuing Yearly Meeting in London, which you are now going to attend, where I have been so often refreshed with my brethren; but it is otherwise allotted.—The Lord knows best what is best for us;—I am content, and resigned to his will.

“ I feel a foretaste of the joy which is to come; and who would wish to change such a state of mind?—I should be glad if an easy channel could be found, to inform the Yearly Meeting, that as I have lived, so I shall close, with the most unshaken assurance, that we have not followed cunningly-devised fables, but the pure, living, eternal substance.

“ Let the aged be strong, let the middle-aged be animated, and the youth encouraged; for the Lord is with Sion, the Lord will bless Sion!

“ If I be now removed out of his church militant, where I have endeavoured in some measure to fill up my duty, I have an *evidence* that I shall gain an admittance into his glorious church triumphant, far above the heavens.

“ My dear love to all them that love the Lord Jesus.”

water ensued, but without the power. For a day or two preceding, some heat, and an unusual difficulty had attended: at length a total suppression came on, that required manual assistance for upwards of two weeks, which was sometimes accompanied with excruciating pain, though no less than two hundred drops of Thëbaïc tincture had been given in the space of a few hours, without much relief. In the height of his distress I visited him, and found him calm and recollected: he described, with wonderful serenity of mind, his acute misery, expressing a pious and Christian resignation; and adding, “that if he had left any thing undone which he wished to have done, it was perfecting the plan of Ackworth School; and likewise, the complete arrangement of the rules of our religious Society.” [The first, I have already intimated, was an undertaking worthy of a great and illustrious sage; and the latter was equally arduous, though the difficulty could be known only to the Society interested in it: and he lived to accomplish his ardent wishes.

In the commencement of December of the same year, he was able to see his friends; and soon afterwards the importunities of the sickness forced him again into his former arduous and active life, and for the space of two years he enjoyed his usual degree of health, at least he rarely complained, and he certainly was equally occupied in the duties of his profession; and in numerous exertions for the benefit of individuals, and of the community; for he never seemed so happy, as when he was rendering others so.

It was after this illness that he visited Ackworth School, and endeavoured to perfect his plan, and perpetuate its advantages to posterity. He retired as usual, the latter end of the year, to Lea-hall, and once returned by Buxton; where he projected those improvements in that celebrated resort of invalids, already hinted at, and which, as I am informed, are now carrying into execution.

He likewise visited Knarësborough, in Yorkshire, after many years absence, “to pay,” as he, with filial piety, relates, “the grateful tribute of a tear at the side of an honoured parent’s grave.—To see that his sepulchre was not laid waste to the beasts of the field, but secured

“ from the ravages of neglect, was to us (himself and sister) a pleasing
 “ duty. Firmly persuaded that we had not the least cause to mourn on
 “ his account, and nothing left more becoming us, than to call to
 “ mind his precepts, and his example, we left the solitary spot, with
 “ hearts full of reverent thankfulness, that such was our father, and
 “ that we were so far favoured, as to be able to remember him with gra-
 “ titude and affection *.”

But the firmest constitution, like the most perfect elastic, may be extended beyond the power of restoration. It was on the 12th day of December 1780 that he was again seized with a suppression of urine, which no art could remove. I saw him in a state of acute pain, which seemed almost insupportable; he had strength enough to raise himself up in bed, but with such extreme thirst, that while he leaned on his right arm, he held in the left hand a glass of wine and water, to moderate the insatiable thirst, of which fluid he was obliged to sip after every sentence, in order to enable him to speak: he was then as serene as in perfect health; he endeavoured, indeed, to assume a degree of cheerfulness, which was natural to him when well, and described his complaints, and their probable fatal termination, with a pious hope, “ that
 “ he had not lived in vain, but in a degree to answer the end of his
 “ creation, by sacrificing interested considerations, and his own ease,
 “ to the good of his fellow creatures.” Some individuals might have envied the universal esteem he acquired by his virtues, his manners, and his skill in healing; and all may admire that comfort of mind which sustained him to his final dissolution, which was on the 26th day of December 1780.

A man so long, and so respectfully known, dying in the summit of celebrity, and surrounded with the caresses of a numerous acquaintance, must be deeply and universally regretted.

Acts of friendship to the deceased are animated, because they are disinterested, and virtuous minds are the most ardently disposed to fulfil them: but to prevent the inconveniencies that were feared, and might result, from the crowd that purposed to assemble, to pay the last offices

* Letter to the Editor.

of esteem to his memory, had he been interred in London, it was judged adviseable to carry his remains into the country; which, on the 5th of January 1781, were deposited in the burial-ground of Winchmore-hill, about twelve miles from town: nevertheless, upwards of seventy coaches and chaises, filled with friends, attended upon this melancholy occasion. "The tender remembrance of friendship yet lives in every breast; we mourn without form; we see and feel the void his fall has left, and which only time can mitigate, and a resignation to the dispensations of that Power, which orders all things with unerring wisdom and goodness, beyond our comprehension *."

——— *Quis talia fando,*
Temperet à lachrymis ?——— VIRG.

* Dr. FOTHERGILL's Life of Dr. Russell.

THE following letter, though addressed to the sister of Dr. FOTHERGILL, has such an immediate reference to the present subject of biography, that I have presumed to insert it here.—This affectionate tribute of the living physician, after an intimacy commencing in youth, and continued with unabated friendship to the latest period of Dr. FOTHERGILL's life, affords the most honourable testimony of the amiable character of the one, and of the tender and sympathetic feelings of the other; and must convey singular pleasure to every reader, who hath enjoyed that genuine friendship, which we trust doth not terminate with the grave.

“ Dear Mrs. FOTHERGILL,

“ I DO not fear to encrease your grief by this early address, nor to recall to your memory the very afflicting dispensation which you have lately experienced, as I am well convinced it has never once been absent from your mind since it happened; but I can no longer defer to mingle my tears with yours, and most sincerely to condole with you on the signal loss which you have sustained. Your loss, it must be confessed, is incomparably the greatest; but you are by no means the only sufferer—all his friends, his acquaintances, the publick—all partake of it, and share it with you.

“ As to myself, I feel it deeply. Forty-seven years have now run their course since I had first the happiness of his acquaintance; during which long tract of time we have maintained an uninterrupted warm mutual and disinterested friendship. Often have I been benefited by his counsel and advice; always happy and improved by his conversation and correspondence. The regard and kindness with which he distinguished me,

me, has been ever my pleasure and my boast. May the Almighty sanctify this severe affliction to you! and may we all profit by so eminent an example! Great as your grief must be, you have every consolation that can alleviate a misfortune of this kind. No one lived a more innocent and a more useful life. No one was ever more beloved and respected while living; none have died more universally regretted. I loved and esteemed him highly alive; I shall ever respect his memory. Submission to the will of Heaven, we all know, is ever our duty under every afflicting dispensation. The reason is very plain; of this our judgment is easily convinced: but the practice is not quite so easy. We cannot forget the pleasure we enjoyed in the possession of such blessings; we look back with regret, and are deeply sensible of the present void. Natural affection will have its course, and it requires time to soothe the passions. Of all the taxes on humanity, this is the greatest.—Both on your own account, and from the near relation in which you stand to the respected deceased, I must ever interest myself cordially in your welfare. I am far from expecting, nay, I do not even wish, you to take any notice of this letter soon. The present state of your mind cannot admit of it: but hereafter, when time has mellowed your grief, and blunted the edge of your present poignant affliction, I will hope to hear, either from yourself, or by the hands of some of your friends, of your state of health and situation. I hope I need not say, that if in any respect I can be made useful to you, it will afford me a sensible pleasure. I commit you to the consolation and guidance of the Almighty; and remain, with sincere regard and esteem,

“ Dear Mrs. FOTHERGILL’S

“ Faithful and respectful friend,

“ W. CUMING.”

“ *Dorchester, Jan. 10, 1781.*”

Differtatio Medica
I N A U G U R A L I S,

De Emeticorum Ufu in variis Morbis tractandis :

Q U A M,

FAVENTE SUMMO NUMINE,

*Ex Auctoritate amplissimi SENATUS ACADEMICI, et nobilissimæ
FACULTATIS MEDICÆ Decreto ;*

PRO GRADU DOCTORATUS,
SUMMISQUE IN MEDICINA HONORIBUS ET PRIVILEGIIS, RITE AC LEGITIME
CONSEQUENDIS,

Eruditorum examini subjicit,

J O A N N E S F O T H E R G I L L,
ANGLO-BRITANNUS,

Ad Diem 13 Augusti, horâ locoque solitis.

E D I N B U R G I,

M,DCC,XXXVI.

THE following Inaugural Thesis was written when the Author was little more than twenty-one years of age, and before Baron de Haller's immense work of Physiology made its appearance, and diffused new light upon the Nervous System.

Publications, under the character of Juvenile Attempts, do not always afford conclusive evidence of a rising and superior genius; they are too frequently the productions of indigent individuals, who are always to be found in colleges, and who subsist by the indolence or ignorance of wealthier students, furnishing them with performances to which they have no better claim than what the mere exhibition of their names on a title page gives them. But whatever merit may be found in this Essay, I have authority to say, that it was the genuine production of the author, under whose name it was published, without any assistance either in the matter or the composition.

The subject is an important one, and too generally interesting for the Public not to wish for a translation of it into English, especially as most of the Doctor's subsequent pieces were originally written in that language.

E.

Viris præclaris,

Præceptoribus suis plurimum colendis,

JOANNI RUTHERFORD, Med. Doct. atque in Academia
Edinburgenſi Medicinæ theoreticæ et practicæ Pro-
feſſori :

ANDREÆ ST. CLAIR, Med. Regio, Medicinæ theoreticæ et
practicæ in eadem Academia Profeſſori :

ANDREÆ PLUMMER, Med. Doct. atque ibidem Medicinæ
et Chemiæ Profeſſori :

ALEXANDRO MONRO, R.S.S. et in eodem Lyceo Anatomix
et Chirurgiæ Profeſſori :

N E C N O N

CAROLO ALSTON, Med. Doct. et Reg. Botanices Profeſſori :

*Ob plurima in ſe collata beneficia, hoc ſpecimen inaugurale, quod exegit mos
laudandus Academiæ,*

*Omni quo par eſt obſequio et
exiſtimatione offert*

JOANNES FOTHERGILL, A. & R.

Wm. L. Garrison

My dear friend

I have just received your letter of the 10th inst. and am
glad to hear that you are still in the land of the living.

I am sure that you will find the cause of the
free press in London as successful as in America.

I have just received your letter of the 10th inst. and am
glad to hear that you are still in the land of the living.

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Differtatio Medica

I N A U G U R A L I S,

De Emeticorum Ufu in variis Morbis tractandis.

P R O Æ M I U M.

QUUM corporis vigor, mentis acumen, falus perfecta præfens, futuræ ftabilimèn, vitæ constantis et integræ dulcedo, magnâ ex parte ventriculi, visceris prænobilis, fata fequantur; nihil arduum aut moleftum ducebant tum veteres tum recentiores medici, quo minus in vado effet tantæ utilitatis negotium. Experientia gnari facti fuerunt, fi fofpes effet ventriculus, minus metuendum effe reliquis; eo autem malè fe gerente, incolumem diu hædere totius corporis fabricam non poffe. Indies quoque compertum eft, quòd arthritis, hydrops, fcorbutus, tabes, infania, febresque peffimæ (et fi quæ graviora mala fuperfint, et hominibus infenfa magis,) rariùs attollunt capita, illæfo interim ventriculo: et fi forte nafcantur aliunde, fæviunt eò magis, quo magis à fanitate recedit princeps hæc animalis officina. Hinc itaque liquet, quantum naturæ miniftris incumbit, ejus incolumitati enixè profpicere. Ipfius autem ventriculi, ejufque contentorum vitia, tum et morbi exinde nati, quorum fibræ altiùs hærent, opem fæpe pofcunt, quæ depletione tentatur; neque ad culpam horum delendam, prognatafque labes eradicandas, feliciùs adhibetur fæpiffime remedium, quàm evacuatio per vomitum facta. Hac unicâ intentione adeo celebrata fuit Emefis apud veteres medicinæ patronos; ut etiam fanis, fi fani perfiftare voluiffent, hoc medicinæ genus præfcripferit (a) Hippocrates, quod fæpius repetendum fuafit, licet afpera et intractabilia admodum effent medicamenta vomitoria, veteribus familiaria; nec certe fine decumbentium faftidio, vel medicorum follicitudine, porrigenda.

P A R S P R I M A.

1. **E**ST autem vomitus ea ventriculi, diaphragmatis, et mufculorum abdominalium actio, quâ illius contenta, quafi inter præla compreffa, vi magnâ furfum per os rejiciuntur. Horum fi quidem viscerum contractione

(a) Hippocrates de diæta, lib. 3. & alibi paffim.

furfum

sursum urgentur omnia in abdomine contenta viscera, constringitur inde pylorus, dum quæ in ventriculo hæret materies, illius (a) et ambientium vi musculari in orificium ejus superius impressa, illud dilatat, et per contractas œsophagi fibras longitudinales facilem sibi parat exitum.

2. Stimulus quicunque validus, ventriculo inditus, ejusque nervis applicatus, actionem hanc incitare potest, ob commercium quod obtinent ventriculi nervi cum eis, qui musculis abdominalibus et diaphragmati inserviunt.

3. Copia etiam ingestorum nimia atque moles, licet haud alio, saltem parum ingrato potiantur aculeo, nauseam, deinde vomitum excitare queunt; cujusmodi sunt, aqua egelida, aromatibus imbuta, suaviaque, nec non dapes illæ quæ gustui summopere blandiuntur, avidè et sine norma deglutitæ; quicquid porro nervos ventriculi irritat, aliâve aliquâ ratione æquabilem horum liquidi fluxum perturbat admodum, vomitionem ciet; qualia sunt capitis contusio vel concussio vehemens, jactatio in nave vel rheda inassuetis, valida imaginatio, sive rei cujusdam injucundæ memoria; hæc enim aliaque similia delicatulos summo urgent quandoque fastidio vomituque.

4. Attamen compertum est, objecta omnia, stimulo licet prædita, haud æquè certò vires suas in ventriculum vicinaque exerere, sed nunc per unum ex emunctoriis, nunc per alterum, promovere secessum: quædam itaque quæ ferè perpetuò vomitum producere constabat, quæque præ cæteris huic muneri obeundo maximè accommodata esse docebat experientia, in unicum hunc usum seposuit vetustas. Εμετικά hæc appellabant Græci, vomitoria Latinis audiunt.

5. Mancus verò fuit horum apud veteres catalogus, licet amplius; pauca enim vomitoria cognita habuerunt, quæ non acerba admodum et inclementia, vel lenia prorsus et invalida, comperiuntur; si modo simplicia eadem, eisdem insignita titulis, apud nos hodie prostant, ac apud istos olim: uti cuique patebit, antiquorum scripta evolventi. Veratrum aliquando lethale fuit, infida quoque aliorum actio. Non mirum itaque, si morbo graviore torqueri, vel ad aliud quodcunque subsidii genus confugere maluerint ægroti, quàm durum et immitte, vel lenius, at incertum, sæpe infructuosum, experiri medicamen: quo contigit ut absterritus quandoque æger, medicum abhorreret; medicus pariter medelam, quæ tanta pollicita est, propinare dubitaret: unde uterque incommodum haud leve sæpius tulit. Atque licet Hippocrates rationem intellexerit temperandi emetica; alii tamen multi, minus solertes, spe suâ sæpe exciderunt. Neque chemia, quæ tot præclara medicamenta detexit, ulla fere suppeditat emetica, quæ tenellis et delicatioribus tutò dare licet: quin et dolebat suo tempore Sydenhamus, desiderari adhucdum emeticum tutum, et satis interim efficax, quale in celebri radice Ipecacuanha passim hodie experiuntur practici. Hujus instituti non est, singula, quæ vi emeticâ pollent, recensere, horum saltem classes ratione virium indicasse sufficiat.

(a) Wepfer de cicuta aquatica, cap. 15. Hist. 1.

6. In *lenia*, *vehementiora*, et *fortissima* vomitoria, distinguendi hunc evacuantium ordinem, mōs quibusdam obtinuit: nec quidem ineptè; diversa enim ista simplicia, quæ ad vomitum ciendum hodie usurpantur, commodè satis sub triplici hac serie dispertiri possunt. Nulla tamen fides efficacix, sensibus patefactæ, odori saporive videlicet, habenda est: sed experientix soli horum credenda distributio.

7. Emetica quæ *lenia* appellantur, gemini sunt ordinis; *imo*, Recensentur ea quæ mole suâ, vel irritamine levi, moli unito, stomachum laceffunt; qualia sunt, aqua tepida, viscosa, saccharata, mellita, oleosa, salita, jura pingua, infusa theæ viridis, cardui benedicti, florum chamæmeli, aliaque ejusmodi plura, ex diversis plantis aromaticis elicitæ. *2do*, Huc pertinet emetici cujusdam fortioris dosi refracta, quæ stimulo gaudet tam valido, ut nauseam, vomendique conatum unum alterumve provocare possit, nec ampliùs urgeat. Ex salium numero hæc plerumque petuntur, quæ humoribus gastricis statim solvuntur, et celeriter undiquaque dispersa, applicantur nervis, mox sursum rejiciuntur, penitusque epotis liquidis eluuntur soluta, ut brevi quiescant omnia. Filum per œsophagum trajectum, irritatio gulæ, per pennam oleo madefactam; idea fastidians, inassueta navis agitatio, currûs per loca aspera ducti conquassatio; animi denique pathemata leviora huic ordini consentiunt. Novissimè tamen memoratas causas quibusdam vomitiones inducere perquam violentas haud diffiteor; plerisque verò non item, neque eos diu et fortiter simul molestare solent.

8. *Fortiorum* classis fit ex prioribus § 7. *n. 2do*, auctâ saltem dosi, vel causâ; aut ex iis quorum firmior compages, et hinc tardior effectus, sed vehementior: namque emissæ particulæ vellicantes, paulatim in cryptas plicasque ventris rugosi sese insinuant, nervulis adhærescunt, molestiam creant, augmentque, nec ingeminato vomendi nisu, velatis sedibus excutiuntur, usque donec eorum vires repetito opere decoquantur; hinc emesis protractior, nec non vehementior. Medicamenta pleraque sursum purgantia, hodiernâ praxi maximè usitata, huic classi addenda sunt, uti v. g. asarum, ipecacuanha, radix raphani rustici, semen sinapis, scilla, horumque variæ præparationes, combinationes, ex vegetabilibus. Ex metallicis sales quidam Chemiæ progenies, ut vitriolum Martis, et salia vitriolica: sed palmam præ aliis meruisse videntur, quæ ex Venere acquiruntur, sal sc. cupri ejusque tinctura. His addendi sunt tartarus emeticus, et quorundam ex serie sequenti imminuta dosi.

9. *Fortissima* nuncupare licet ea, quæ ars dogmatica et maximè rationalis, ob sævos et atroces effectus sæpius expertos evitat, quæque non sine imminente machinæ periculo exhiberi posse perennis docuit observatio, quæ rariùs, nisi ab audaci medicastro, vel in morbo quodam acerrimum poscente auxilium, à methodico præscribuntur; licet inter hanc et prægressam classem, exquisitas metas apponere, difficile quidem sit. Plurima hujusmodi suppeditat vegetabile regnum: eminent imprimis *æli* purgantia, quorum amplificata dosi, præfer-

tim

tim si ex resinosis defumatur, crudeles vomitus frequenter excitat. Resinosa etenim humoribus nostris parum miscibilia sunt, indissoluta cavo ventriculi accrescunt, fummos concitant dolores, spasmos, et immanes per superiora depletiones: evincunt hoc cruciatus isti, qui ægrotis superveniunt post ingestam jalapi resinam, aut ejusmodi quodpiam, non rite per attritum solutum, vel miscibile aliâ quavis ratione factum; dum forte nativo suo sapone fraudantur humores inquilini, et aquosâ pituitâ plena sunt omnia. His annumerari possunt, helleborus albus, tithymali species nonnullæ; nicotiana, et plantæ aliæ permultæ. *deleterix* dictæ: classem augent, stibiata acriora, et illa quoque emetica quæ dat Mercurius, unâ cum plerisque metallicis venenatis.

10. Ex tradita hætenus descriptione liquet, *imo*, Vomitus excitari non posse, sine quodam aculeo (intelligi velim omne id, quod liquidum vitalis fluxum sive nervorum actionem mutare queat) systematis nervosi regioni cuidam applicato. *2do*, Quod ex illius in nervos, horumque in musculos, § 1. actione, necessariò sit contentorum gastricorum evacuatio, denique *3tio*, Quod hæc neutiquam evenire possint, sine partium quarundam compressione forti, aliarum ingenti concussione; et insigni corporis universi motu. Lenissimæ etiam vomitioni hæc semper adsunt: crescunt ut extenditur emetici potentia, et adaucto stimulo, usque in fabricæ ruinam evehi possunt.

11. Quum itaque præfatæ conditiones nunquam non *Ἐπίσει* conjunguntur, quum ab hisce omnino pendeant pleræque ex iis mutationibus quæ ab emeticis sperantur, producuntur; effectus horum ex triplici illa causa nascentes, quinam sint, rimaturus, his quæsitis responsa expediam; scil. Quid valeat emeticum, quatenus est stimulus? Quatenus evacuet? Quatenus denique vi suâ mechanicâ totum corpus afficere queat?

P A R S S E C U N D A.

De Emeticorum Ufu, à stimulo suo derivato.

12. **N**ULLA adhuc instrumenta in corpore animali invenit anatome, quæ stimulorum objecta propriè existimari possunt, præter ipsos nervos; qui effectus horum, quales quales sint, primariò patiuntur; aliasque ad partes propagant, uti multiplicibus constat experimentis: hæc enim docent, quod non modo in ipso puncto cui irritans applicatur, mutatio accidit; quin et ad nervi fontem, terminum, ramorum pullulantium fines derivatur effectus, nec non ad furculos, oppositam corporis plagam lustrantes, à causa licet diversa.

13. Effectus imprimis sunt, energix vitalis ad partem ita affectam accessio major, in aliis ejusdem diminutio; et perdita demum æquabilis lenisque ejus divisio, cursu magis accelerato, turbatoque simul. Hæc verò omnia, gradûs respectu, diversa futura sunt, et plus minusve conspicua, prout causæ lacescentis vehementia

vehementia et copia, nervorum indoles, numerus atque moles, tegminis denique quo involuti sunt crassities, est diversa.

14. Causam hanc, sive energiam, § 13. esse liquidum subtilissimum, mobilissimum, omnibusque fluidi dotibus communibus præditum, è cerebro, jugi, leni, pacato motu derivatum in singulas corporis partes, agnoscunt plerique Doctores. Nec inficias ibit, qui attentè perlegerit quæ de hac re scripsit (a) Boerhaavius; vel quæ ordine adhuc lucidiore exposuit inclytus noster Anatomix (b) professor, perpenderit.

15. Neque admodum verosimile videtur, effræno vel præcipiti quovis impetu spiritus animales unquam ita rapi, ut enormium tot effectuum causa sint, vel tot morborum essentiam constituent; hancve in motum proclivitatem ab ingenti quadam et præternaturali mobilitate oriri posse: Quippe quòd spirituum impetus à fortibus vitæ viribus solummodo pendeat; cum tamen in nullis frequentius occurrant morbi à systemate nervoso malè affecto nati, quàm in eis qui oppositâ potiuntur indole, laxis scil. debilibus, et quibus vitæ vires parum firmæ sunt. Legibus certe œconomix perquam videtur consentiens, liquidum hoc, nunc paulo celerius, nunc lentius moveri: sed tantum interessè discrimen inter summam velocitatem, pigritiamque summam, ut sola sit hæc morborum origo, haud facile conceditur. Spirituum inæqualis distributio tumultuum plurimorum, qui nervis vitio dantur, parens esse potest, omniaque ista phænomena, quæ morbos, nervosos dictos, comitari solent, longè facilius hoc filo duce panduntur: nec alia suadet musculorum actio.

16. Pungens quodcunque fatis acre, nervo, ejusve propagini appositum, inæquabilem hanc dispersionem efficit, ut spasmi et convulsiones ad necem usque favientes ostendunt. Peragit idem quoque compressio, in nervi cujusque insignioris ortum facta; aut obstructus, alia quavis de causa, spirituum per suos canales egressus, unde propinqui pleniori horum rivo lustrari debent. Hanc augent diathesin, vel minuunt summopere diversa fluidorum et solidorum ratio, quæ unicuique ætati convenit; tum et propria cuique temperies: quo etenim tenerior ætas, quo mollior habitus, eò, cæteris paribus, promptius irritantur nervi, vel comprimuntur. Sententiam confirmat experientia. Rarò enim opiparè pascetes pueros, quorum sanguis spiritibus dives, et insigni prædita mollitie cutis, inquinat contagium variolosum, si modo venenum haud fuerit mitissimum, quin excitantur contractiones horrendæ: neque rarò superveniunt insultus, epilepsix veræ prorsus æmuli. Nec semper ob egestatem liquidi vitalis, invadunt insultus hysterici, cum otiosas, et luxu solutas feminas adorianatur magis, quàm quibus fors angustior obvénit.

17. His idcirco ita positis, generalem hanc regulam licet statuere; nempe si morbus à stimulo particulari cuivis parti applicato nascatur, huic succurrendum

(a) Boerhavi Institutiones, § 275 ad 292.

(b) Monro's Anatomical Treatise of the Nerves.

est, vel destructione causæ stimulantis, vel alterius applicatione parti adversæ; sic etenim restituto æquilibrio solvitur morbus spasmodicus.

18. Effectus memorati § 13. nervis præcipuè et musculis contingunt. Alii tamen et diversi vicinas sæpe partes corripunt, uti dolor, cutis rubedo, calor; humorum affluxus, tumor; vasorum compressio, obstructio; horumque destructio, suppuratio, gangræna. Hæc internis juxta et externis corporis partibus eveniunt.

19. Generales aculeorum virtutes hætenus enarratas possidet remedium de quo nunc agitur. Hoc tamen sibi ferè proprium obtinet, quod emeticorum actioni certiores plerumque limites præscribere liceat, quàm interno cuivis stimulantem remedio. Hæc enim quandoque frangunt repagula, sæviuntque ferociùs quàm expedit, vel segniùs agunt; dum emetici vis ad votum ferè evehi vel reprimi potest, si atrocissima tantummodo excipias venena.

20. Ex dictis [§ 13. ad 20.] patet quid valeat emeticum quatenus est stimulus. Insignes equidem præstat effectus, è quibus eminent sequentes. Lenior apoplexiæ species, quæ ab inerti frigidâque pituitâ nascitur, si modo à causa recente, nec corpore valde senili accidat, emetico prudenter exhibito sæpe solvitur: inde siquidem crassa subiguntur, excutiuntur; aperiuntur nervorum oscula, horum tramites expediuntur, incitato simul torpescientis sanguinis motu. Similes in simili paralyfi præstat effectus.

Pueris frequens est morbus epilepsia, ab acri quovis rodente nervos, eosque vellicante. Adultis sæpe contingit ab eadem causâ, tum et affectionibus animi gravioribus, à dolore sævo membra cruciante, à turbato spirituum fluxu; qualis hypochondriacis et hystericeis familiaris est. In his casibus, si mobilis sit mali fomes, iterato vomitorio excutitur.

Membrana ista musculosa, quæ trachææ segmenta cartilaginea sibi invicem adnectit, ex fibris conflatur musculosis contractilibus spasmobnoxiis, in his præcipuè quibus genus nerveum est mobile nimis. Nictu oculi sæpe constringuntur fibræ, adducuntur sibi mutuò cartilaginee, pertinaciter elongationi solitæ repugnant, crebros trahit spiritus æger, avidè captat auras, profundè gemit, tandem labore fatigatus, et mox angori succubiturus, præ defectu spirituum solutum sentit spasmus, explicatur pectus, et vivere de novo miser exorditur. Quid prohibet quin subito propinata dosis salis vitrioli, cupri, hujusve tincturæ, quæ irritando ventriculum, ciendo vomitum, spirituum iter tramitemque mutando, tumultus hosce sedet? omni certe vacat periculo.

Ubi sanguis eam nancisci indolem incipit, quæ apud veteres *atra bilis* dicta est, ubi functiones naturales labascunt propter spirituum absentiam; quando quosdam tantummodo nervos iniquè petunt, hi certos duntaxat mentis corporisve actiones exercent; vix præstantius exhibetur remedium, quam emeticum certis cautelis moderatum, ut postea dicendi erit occasio.

In morbis spasmodicis, aliisque plurimis nervosi ordinis, qui proventum ab inertia et languore chylopoieticôn, ducere videntur, plurimum prodesse visa sunt

sunt emetica. Chorea Viti, malum certè paucis hujusmodi pertinaciâ secundum, vires tamen hujus remedii (a) quandoque fatetur. Atque licet solâ vi stimulante in his morbis non juvent, eâ tamen plurimum profunt, spirituum auctiorem fluxum versus organa sollicitando, quæ penuriâ patiuntur, quæque exinde deveniunt morbis opportuna.

In malis denique plerisque chronicis, quum pituita crassâ desesseque habitum obtundit, ignaviùs hâc obsita vibrant solida, fluida jam viscida difficiliùs propelluntur, perditæ vel depravatæ facultates universæ liquidi vitalis inopiam segnitiei demonstrant, uti in glutine vel acore spontaneo; emetica, licet curationem haud absolvant quâ stimuli, aliis tamen remediis palmam præripiunt; præsertim si ad reliquos vomitorii effectus respiciamus.

21. Actionis istius § 18. alter effectus est, fluidorum tenuiorum festinata secretio; quæ duplici ratione comparat *Ἐπιθυσμα*; primò, motum sanguinis intendit in vasis majoribus, horum crebriorem et fortiolem in fluida reactionem excitando, attenuationem conciliando, et hinc secessui aptitudinem; dein ipsis secretionis organis præparationem expedit, et transitum humorum accelerat. Hinc ab eodem stimulo diversæ augentur secretiones, prout diversimodè in hoc vel illud organum secretorium determinatur.

P A R S T E R T I A.

De Emeticorum Ufu, evacuando producto.

22. **E**METI effectus, quatenus evacuat, in duplicem ordinem partiri absonum haud videtur, *1^{us}* est, Depletio ventriculi, contentis sursum reiectis. *2^{us}*, Aliarum partium excretio aucta per conatus vomendi. Quum verò hæc pro causa proxima haud agnoscat vomitorium, inter effectus quos mechanicè præstat emesis commodè magis recitari potest, atque evacuatio universalis appellari meretur: altera particularis, sive eorum expulsio, quæ jam in ventre stabulantur, vel eousque per aculei vim pelliciuntur; vel denique per *ἀναδρομὴν* à viciniis in eum advehuntur; de quâ proximè sermonem instituere jubet bona methodus.

23. Nocentia per os ingesta, aut in ventriculum aliunde delata, promptam emetici medelam exigunt, neque ullum novit medicina potentius adjumentum, ad prolem horum morbosam radicitùs extirpandam, vel ad symptomata quædam atrocia, fata hinc, lenienda.

24. Ex priorum numero, § 23. ex ingestis scilicet, cibi potusque in censum meritò vocantur. Sors enim vitæ ineluctabilis, quamdiu vitales auras carpiamus, hos effecit necessarios; rationes supprimo. Et materiei diversissima

(a) Cheyne's Essay on the Gout, p. 113, Edit. 4.

indoles, ex quâ comparantur alimenta, et à nostrâ sæpissime aliena, quorundam incuria, improba aliorum ventris ingluvies, denique vetiti aut nocivi appetitus, error in escarum potuumque delectu, et mensuræ justo moderamine, vitia induxerunt ventriculo multiplicia. Hinc ferax malorum progenies, stomacho ipsi crudeles minitans dolores, ultimisque vasorum anfractibus nocitura. Quæ sane singulatim explicare jubet inceptum, denegant autem temporis angusti limites. Et quidem eis excutiendis operam frustra navarem; quum pensum istud omni numero absolutum, vestris sub auspiciis, non ita pridem, in lucem prodiit, in dissertatione (a) eleganti, *de noxis ex cibi potusque usu & abusu oriundis*.

25. Copia ingestorum major justo mala parit ibi descripta: his levamen afferre solet depletio; quæ, si æger sit *εμεμῆς*, vomitoriis facienda; hæc enim ratione citissimè aufertur materies ventriculum gravans, et præcavetur ne incocti alimenti reliquiarum pars quævis in corporis interiora ducatur.

Vitiata qualitas idem petit auxilium, dum adhuc in cavo ventriculi remanet materia nociva, aut non longè ab eo propagatur. Sic, quæ nativâ gaudent tenacitate, majore quàm quæ domabilis sit per corporis vires, suum secuta genium corrumpuntur, abeuntque in ductile phlegma. Eadem res est, si expultrix ventriculi facultas præpedita sit, ut in debilibus sæpe fieri testantur practici: tunc enim, licet nec copiâ nec qualitate insigniter vitiabili gaudeant, sponte tamen labem contrahunt ingesta, natam ab ipsâ morâ auctamque. Hinc prodeunt acrimoniæ diversæ species; hinc muci et pituitæ tenacis scaturigo: quæ prout singulatim dominantur, vel conjunctim permiscuntur, adjuvante hominis temperie huic illive proclivi, producunt diversa et nonnunquam planè atrocia symptomata. Sic multiplices appetitus depravationes, deletio integra, immutata vel sublata coctio vel incocti corruptio, hæc sæpe pro suis causis proximis agnoscunt.

Ex ægroto ipso facilè discendum erit quid prægressum fuerit prædisponens; atque hinc patet indoles materiæ, et quibus utendum remediis. Vomitoria fomitem exhauriunt, causam proximam funditus eradicant: hisce tamen solis non fidendum, sed exhibitis roborantibus (inter hæc repetito, post debita intervalla, vomitu) imâ de stirpe tandem morbus reciditur.

26. Substantiæ quæcunque acres, casu vel industriâ in ventrem acceptæ, vel medicamenti, vel veneni titulo, si molestia denunciât fabricæ noxam insidiari, citissimè sunt expellendæ, et per ea loca præcipuè, quæ portam dant maximè periculis immunem, quâ emigret hostis, intactâ aliarum partium salute. Si nullâ aut parvâ copiâ tubum intestinalem ingressæ sunt, emeticum cæteris remediis longè præstantius, et curationem sæpe absolvit; neque erit ommittendum,

etiamſi portiuncula tantummodo hæreat adhuc in ventriculo. Classis prima § 7. amplam præbet pharmaciam, quâ plurimæ venenorum ſpecies debellantur et expelluntur; atque ſi antidoton univerſale ſit, aqua tepefaãta copioſè ingeſta, id forte ſuppeditat. In delectu tamen horum prudentiâ opus eſt; expulſio quandoque haud implet vota, quin teneræ partes quibus applicantur, ab iſtorum injuriis tuendæ, mitigandi dolores, et veneni ſævities compeſcenda, etiam dum citam molimur ejectionem. Hic iterum aſſumpti natura cognita medenti auxilia indigitat, ad infelicis ægri levamen tempeſtivum procurandum. Sic ſalia alcalica diluta toxicis opponuntur acidis; ſaponacea miſturam conciliant oleoſis; aquoſa ſales quoscuque dividunt, ſternuntque vires; acria retundunt ea, quæ oleo vel glutine viſcoſo gaudent; et ſic de cæteris exiſtimandum. Conſulat lector quæ de hâc re egregiè ſcripſit (a) Boerhaavius in capitulo *de antidotis*.

27. Neque tantum per emetica fit ingeſtorum evacuatio, ſed et humorum omnium qui in ventriculum deferuntur. Proveniunt illi, vel à vasis ipſius ventriculi, vel vicinorum: atque equidem nullibi clariùs conſpiciendus pungentium effectus, § 21 expoſitus, quàm in hoc viſcere. Id patebit, ſi attendamus ad nervorum per tunicas ampli ventriculi diſperſorum frequentiam, ad glandularum numerum, earumque munus, ad capacitatem denique vaſorum quibus hoc viſcus inſtruitur, molis reſpectu. Mollities tunicarum facilem dat nervulis introitum, cavitas ſpatioſa latam exhibet ſuperficiem. Hinc naſcitur inſignior actio, ſive gaſtrici liquoris uberior ſecretio; quæ, quum ſemper larga ſit, ſi augeatur, neceſſariò totum corpus quodammodo mutat, humores ſcroſos diſpellendo, exſiccando: et hinc alii emeticorum effectus pulchri, in morbis à ſeroſâ vapidâque colluvie natis; ut in catarrho, leucophlegmatiâ, diabete, et fœdo iſto morbo virginibus exſecrato, qui ab excretorum colore pallente nomen accipit; aliisque hujusmodi, de quibus in ſequentibus fuſiùs dicendum.

28. Finitima ventriculo ſunt hepar atque pancreas. Utraque ſua ſecreta fluida in ejus cavum quandoque immittunt; quæ vel copiâ, vel acrimoniâ, vel utrâque chylopoieſin temerare poſſunt: bilis ſæpius, rarius ſuccus pancreaticus, morbos excitandi reus incuſatur. Bilem culpabant veteres, ac ſi morborum ſæviffimorum parens eſſet: hanc ſententiam multi inter hodiernos improbant, neque bilem eſſe malorum cauſam adeò frequentem contendunt. Si vrò probè patuiſſet his quid per bilem antiqui voluerint, ſaltem ex iis ſagaciores haud temere abjicienda fuiſſe eorum dogmata forſan judicaſſent. Non enim ſolus ille liquor ab hepate, ejusque veſicâ ſuppeditatus, *Bilis* titulo inſignitus fuit; ſed totius ſanguinis molis pars haud aſpernabilis, et ipſiſſima illa quæ recentiores *oleum* vulgò appellant; quod, ut ex chemiâ diſcimus, æquè fertilis

(a) Inſtitutiones medicæ, § 1119.

morborum stirps hodie existit, ac fuit olim sub nomine celebri *Bilis flavæ*. Verùm hîc agitur de bile vesiculariâ et hepaticâ, in ventriculum sursum propulsâ, vel de liquore alio quovis, ibi advenâ, qui similia parit incommoda ac ipsa bilis; et talis est humor oleosus, interdum vomitu rejectus, flavescens, horrendâ dotatus amaritie, nec unquam penè obliviscendo sapore, bilem ferè referens, si solùm excipias quòd bilis in igne ardeat nunquam, hic autem instar olei sinceri flammam concipiat, si in ignitos carbones evomatur. Nascitur ab oleosis ingestis, loci calore mutatis in illuviem hanc ingratissimam, accedente gulâ nimis insatiabili, ut monet Horatius,

*Nempe inamarescunt epulæ sine fine petitæ ;
Illusque pedes vitiosum ferre recusant
Corpus.-----*

Et vera bilis, atque flavescens illuvies ejus æmula, similiter hâc dote gaudent, quòd sc. stagnatio, in loco calido, acriores et magis horrendas utrasque facit : eâdem penè ratione ac oleum quodcunque tepore leni et diuturno fctum, à sapore, blandissimo, odore non insigni, colore subflavescente, transit per diversôs corruptelæ gradus ad summum usque putredinis fastigium, tandemque maximam gustui acridinem induit, exhalat mephitim olidissimam, et nigredine deformi ferit oculos. Similia planè patitur utraque mox supra descripta bilis, iisdem subjecta legibus, ubicunque in corpore congesta, donec suam promovet expulsionem irrequietus hospes. Aliter enim diris et acerbis doloribus, torminibus, nauseis atque vomitibus, pœnam non finientibus, sed ad mortem usque vexantibus, excrucietur miserandus æger; præsertim si temperies hominis calidior, solis ardor, victus denique rancescens, aut fermentescens, pabulum flammamque præbuerint. En cholera ! morborum teterrimus : febris accenditur, inflammantur viscera, laboribus succumbunt prostratæ vires; et nisi affideat lecto Sydenhamus alter, obrepens in viscera gangræna duos cum vita terminat labores. Intra confinia, quæ emetici vim sustinent, materies sedem habet, quæ causa morbi est. Indicatur ablatio causæ; cur non emeticis, aut deorsum purgantibus, vel utrisque tentatur egestio, cum in primis viis adhuc stabuletur? Haud sanè immeritò, in tantâ morbi feritate, horum usum repudiant medici prudentes: nam utcunque fructûs perplurimum in aliis, vel in inferiore ejusdem morbi gradu, præstat hoc vel istud medicamen; in violentâ tamen cholerâ, loris quam stimulis magis utendum est, ut facilè attendenti patebit. Acer enim et inflammans iste liquor, abrafo priùs omni muco gastrico, et, quousque pertigerat, intestinali, nudis applicatur nervis, sævos excitat dolores, spasmos fortes, pertinaces, febresque adurentes incendit; vomitu perpetuo evocatur mucus superstes, causa provehitur, et continuato emetici impetu, reduplicantur effectus horrendi. Licet etenim minimo polleat aculeo, hic tamen, qualis qualis est, hosti indigenæ addit vires,

stimulus

stimulus stimulo committitur, et horum sociato nixu perit æger. Si ad hoc stadium morbus non attigerit, neque spem occidunt mali ominis symptomata, ut curationem vomitoriis tentemus jubent omnia. Rei cardo est delectus medicamenti peritus. Nec bilis, nec oleosa materies, five bilis altera, omni fluido promiscuè unitur; hoc respuit, illud verò sequitur petitque. Quòd itaque ad misturam parandam maximè idoneum est, istud usurpandum; indolis morbi cognitæ habitâ interim ratione, cui semper opponi debet auxilium. Hinc saccharata, mellita, saponacea acescentibus permista, ea omnia quoque § 7. n. 1. recensita, quæ mole suâ plusquam erethismate quovis agunt, præ cæteris conferre videntur.

“Quandocunque bilis vacuanda est, inquit “(a) Forestus, post juscula multa, vel post potationem liberalem, provocandus est vomitus; nam bilis ut oleum his supernatat, et ob id facilius evacuatur: adde quod acrimonia ejus temperetur mixtione harum potionum.” Norma certè in vomitionibus biliosis sanandis nunquam non observanda; neglecta quippe pessima quandoque profert incommoda. Catharticum temere ingestum corruptæ materiæ partem abripit ad inferiora, fortè et in sanguinem defert: hinc iterum novæ miseræ.

29. Tanta liquoris pancreatici diluvies occurrit rarò, quæ solitaria morborum causa queat haberi, natos tamen augere potest: quum enim in sanitate larga adèd sit ejus secretio, ut Brunneri experimenta docent, in morbis ex lymphâ redundante ortis, devenièt adhuc copiosior, hujusque per emeticum evacuatio ferosam colluviem imminuet.

30. Februm accessiones nausæ et vomitu plerumque stipantur, aliisque symptomatibus, quæ ventriculum malè affici significant. Cautè tamen erit distinguendum, an ab ipso viscere, an ab ejus contentis, oriatur ægrotudo: alia enim curatio ventriculo, cujus membranæ vexantur inflammatione, alia corruptis sordibus gravato, inflammatione libero, subministranda. Antiquioribus haud adèd perspectum fuisse videtur, hoc viscus morbis istiusmodi æquè esse obnoxium, ac aliud quodcunque; donec Fredericus Hoffmannus (b), in suis exercitationibus, hoc malum sæpius obvenire docuit, quàm vulgò creditur. Signa posuit diagnostica, quibus scopulos latentes vitaret medicus, in quos facillimè alioquin impingeret incautus. Hæc omnia pro suo more, cum largo scœnore in libello *de cognoscendis et curandis morbis* exposuit Boerhaavius, nitidamque medendi methodum illi attexuit. Ab istarum commotionum, quæ in febris initio toties ventriculo superveniunt, veri fontis inscitiâ, lites istæ sollicitæ inter practicos agitatæ, de emeticorum fructu in hisce tractandis enato, profluxerunt. Adversus horum utilitatem hi strenuè arguunt, effectuum exitialium adducunt testes, et fronte torvo vituperant usus. Alii successus fa-

(a) Foresti observ. lib. xviii, obs. 3.

(b) F. Hoffman. Dissertationum Decad. 1.

lutares ad sidera tollunt, nec minus indubitatam historiarum fidem appellant, ad suas partes firmandas. Et quidem facile liquet neutros à veritate penitus aberrasse. Quantos etenim cruciatus induceret vomitorium ventriculo, cujus vasa sanguine crasso turgent, et infarciuntur; cujus distracti nervi, levissimo contra ingesta collisu, atroces patiuntur dolores; cujus denique tunicae distensæ tumore, duritie, atque dolore, phlegmonem verum in corporis exteriori natum omnino referunt. Quantas itaque clades in hoc rerum situ editura est operatio cum tantâ violentiâ conjuncta? Sæpius autem vitia, ab inclusis contentisque producta, molestiarum autores existunt: tunc sanè laude dignos præstat effectus, et Hippocratem, Sydenhamum, et clarissimos quosque in arte viros, usum eorum sancientes habemus; nec non et ratio suffulta praxi idem effatur. (a) “ Si vomitus, ait Sydenhamus, vel inanis aliqua vomendi pro-
 pensio, interturbaverit ægrum, medicamentum emeticum omnino præscriben-
 dum erit.” “ Namque, ut testatur (b) Hippocrates, si quis homini vomenti
 aquam multam bibendam dare velit, ἐκλυσθήσεται δι’ ἧς ἐμέει σὺν τῷ ἐμέτῳ,
 οὐτῷ μὲν διὰ τὸ ἐμέειν ὁ ἐμετός παύεται.” Nec solum hoc commodum fœnera-
 tur, quinetiam et medico et ægrotanti per totum morbi decursuum quæstui
 ingenti erit, uti ex Sydenhamo discimus. (c) “ Sanè vomitorium propinare,
 ubi istiusmodi prægressa est vomendi proclivitas, aded est necessarium, ut nisi
 humor ille expellatur, in sentinam complurium malorum difficilium sit abi-
 turus, quæ crucem figent medico toto durante medicationis tempore, ægrum-
 que in haud leve periculum conjicient. Ex horum præcipuis et maximè so-
 litis est *Diarrhœa*, quæ ut plurimum in deservescencia febris consequitur, quo-
 tiescunque emetica, quando ea suadebat indicatio, omissa fuere.---Porro
 etiam compertum habebis, etiamsi proclivitas illa ad vomendum jam pridem
 præterierit, diarrhœam tamen, quamprimum vomitorium exhibueris, ple-
 rumque cessaturam, dummodo emetico ferendo pares fuerint ægri vires.”
 Nec fane teterrimum rerum conspectum vir egregius delineavit; namque pu-
 trida hæc materies in ventriculo itagnando magis putrida evadit, perque bi-
 bula vasorum orificia, vacua jam per calorem et liquidi jacturam reddita, in
 sanguinem ducitur, sordibus malignis cruorem polluit, et febrem omni numero
 sæviorem reddit; quæ cuncta feliciter anticipata fuissent, si vomitorium, quam-
 primum se patefecit hæcce propensio, fuisset exhibitum. De emeticorum de-
 lectu monitum hæc quoque repetendum erit, scil. quod ea eligamus, quæ sor-
 dibus abluendis aptissima, quæ harum indoli adversentur, eamque mutant vel
 corrigant; quæ denique diluentis vicem gerant, si forte (quòd pote est)

(a) Sydenham. de morbis acutis § 1. cap. 4.

(b) Hippocrates de locis in homine, Clas. 2dæ, p. 16. Edit. Mer.

(c) Sydenhamus ubi supra.

portio aliqua in sanguinem hauriatur. His intentionibus arrident classe *ima*, § 7. memorata, cum nonnullis ex § 8. decerptis efficaciora reddita; oxymel scilliticum v. g. cum radice ipecacuanha; hausto dein largâ manu oxymelite simplice, aliove liquore tenui, prout res nata sit.

31. Dum de febribus agitur, cautelam fas est in memoriam revocare, quæ apud practicos plerosque prostat, nec præteriri debet; scil. quòd in omnibus morbis, ubi plethoram adeste, vel ad eam esse vergentem habitum, sua signa demonstrant, et simul ægri conditio vomitorium postulaverit, sanguinis missio semper præmittenda est; ne fortasse illud ingens conamen, et tetanus momentaneus, vasa distensa rumpat; vel major saltem quam par est sanguinis impetus ad ea loca feratur, in quibus resistentia minus firma vi cedat illatæ; disrupta vasa sua liquida fundant, et immediatè pereat ægrotus per apoplexiam, vel hæmoptoe, vel insanabili inde phthisi, pulmone labefactato, tandem trucidetur; aliisve visceribus pariter infractis è medio tollatur. Illa vomitio videtur optima quæ brevi post sectam venam cietur; certiùs enim incommoda evitantur à plenitudine cæterùm oritura; certiùs simul insequuntur emetici effectus salubres, præsertim si ex febrium genere sit morbus, qui utrumque expetit auxilium. Depleta siquidem per v. f. vasa, citò quandoque de novo turgent; vel ob sanguinis rarefactionem, vel ejus auctam molem per largos potus, in quos ardor et sitis ægrum impellunt, eadem nascuntur ac priùs incommoda: nec ante repetitam v. f. exhibere licet emeticum, quòd paucis post primam evacuationem horis tutò fuisset propinatum.

32. In febribus intermittentibus mirum quid exsequi videtur Παιδευσίς ἐμέτης, quæ effectus quandoque exhibet æquè difficiles explicatu, ac ferè ipsius morbi natura. Licet enim illius sedes præcipua sit in extremis vasis sanguiferis, aut aliquando forte in nervis; humorum tamen evacuatio, qui in alvo colliguntur, haud minimi est momenti. Prostant siquidem exempla hominum, qui vomitu solo curati fuere; hocque vel spontaneo, à benignis naturæ auspiciis excitatò, vel arte famulante inducto: dum interim sanguinis evacuatio, nisi in plethoricis, plerumque obsit, et grave medenti tædium pariat. At repetita prudenter emetica, corruptum in primis viis morbi fomitem sensim consumunt, subigunt, sanguinis fluxum accelerant; morbum denique vel tollunt, vel tutam expediunt febrifugo viam, quod cæteròquin vel morbi fomitem figeret magis, vel evacuatione, sursum aut deorsum excitatâ, proprias suas perderet vires.

33. Multiplices affectat natura vias, per quas domitam febrium materiem, aptatamque ut per portas arte casuve recludendas eliminet, iterumque sanum corpus reddat. Nunc per emunctoria certis excretionibus assueta, per salivam, vomitum, secessum, sudores aut urinas eam ejicit: nunc autem ad alia minus idonea loca despumationes emittit. Tumores ad exteriora nati, aliaque similia

hujusmodi sunt. (a) "*Quæ educere oportet, quo maximè vergunt, eò ducito per loca convenientia,*" omnibus est regula bene nota. Si per salivam febrem judicatam fore constet, manus auxiliatrices eo sunt movendæ. In vomitu idem erit præstandum, si criticum eum esse novimus, vel à materiâ excitatum naturæ inimicâ; sedandum verò, si à ventriculo inflammato, et vomitus vomitu demulceri nequit. Eadem res est, si per alia quævis excretoria egredi tentet. Quò diutiùs enim in corpore sistitur cocta fluensque sanies, eò pejora creat incommoda. Triste, sed verum hujus rei præbet exemplum febris purulenta, quæ à resorpto tabo variolis sæpiùs supervenit, secundaria plerisque nuncupata. Nec maligna minus est aliùs cujuscunque febris acutæ materies critica putrescens, quæ instantem exigit evacuationem. Præstò ad sunt remedia, singulis evacuationibus promovendis destinata: hæc usurpanda prout viam monstraverit natura. Advertendum tantùm est, quòd uti materies morbi cocta per cutis spiracula diffatur, corruptâ labe usque adeo inquinata ut sanos sæpè polluat; similis tamen ad interiora ventriculi et intestini, per horum exhalantia vasa deponitur, cathartico nunc, nunc emetico feliciter auferenda; ne forsan, (b) "*Quæ per morbos post judicationem intus relinquuntur, morborum reversiones faciant.*" Atque suadet ea propter Celsus (c); *Vomitum post febrem eliciendum esse.*"

34. His numerosum morborum agmen liceat adjicere, qui bona et eximia multa ab hoc subsidio mutuuntur. Pauci enim ex chronicis existunt, qui emeticorum ope non indigeant; sed eorum recensio particularis ultra metas protraheret orationem. Morbi enim plerique, puerilis ætatis affeclæ, diathesis rachitica, strumosa, saburra vermium fomes nidusque, victûs errores, atque similia, sæpe emeticis feliciter emendantur. Arthritis, hydrops, scorbuti stadium clementius, adultis infesta, quandoque lenimen ab evacuatione per superiora facta sentiunt; chlorosis et fluor albus molliori sexu, eadem sæpè poscunt auxilia. Catarrhus, diarrhœa, dysenteria, cœliaca affectio, morbusque omnis à serosa colluvie natus, vomitorii commodum agnoscunt. Vix opus est memorare, quantum ad grandævos annos comparandos conducant, idoneis intervallis exhibita. Hodie non defunt homines, qui veterum consilii memores, licet gulæ placendæ parum dediti, nec scopis indigentes ad reliquias crapularum auferendas, tanti æstiment vomitionem, ut bis terve per mensem contractas in stomacho sordes per superiora propellant. Illi, qui accuratam maximè vivendi normam servare studet, sæpius in potu victuque errare necesse est. Hinc seriùs ocyùsve culpa ingruit ventriculo, ibique formatur primò morbi futuri stamen: ægritudo sive nausea molesta interdum sentitur, minuitur cibandi desiderium, aliaque imminent symptomata, varia pro genio causæ

(a) Hippocratis Aphor. § i. Aph. 21.

(b) Idem. § ii. Aph. 12.

(c) Celsi medicina, lib. iii. cap. 7.

vitiique diverso. Plerique statim ad tincturas celebres plantis amaris aromaticis, spiritûs ardentis ope elicatas, confugiunt, istis confidunt, indulgent; donec horum sub jugum missi torrefactis et effœtis visceribus moriantur. Nullum quidem remedium novimus, quod tot tantaque eis polliceri videtur, qui ad cruditates generandas à vitæ genere sedentario proclives sunt; natum enim morbum aufert, causam proximam delet, eradicat, acorem eluendo quæ hanc plerumque constituit. Iis, itaque qui vitam studiosam degunt, vel quorum corporis affectus exercitationes motusque prohibent, qui denique artibus utuntur sellulariis, vel qui ob aliam quamcunque causam eisdem malis obnoxii vivunt, iis, inquam, crebrum emeticorum usum commendarem.

P A R S U L T I M A.

De Emeticorum Ufu, à mochlicâ suâ Virtute petendo.

35. **TERTIUM** adhuc superest quæsitum enodandum, quid sc. emetica profint, quatenus vim exercent mechanicam, et virtute mochlicâ expugnant morbos? Quæ itaque partes afficiuntur, quid patiuntur, quæ in reliquis exinde mutationes producuntur, et in toto corpore contingunt, proximè scrutandum.

36. Contractis itaque [§ 1.] musculis abdominalibus et rigefactis, ferè instar columnæ istius ossæ, quæ posteriora tuetur, vi hujusmodi nullâ movendæ; compulso simul validè diaphragmate, cui inferiùs ossa pelvim constituentia immobilia opponuntur; omnimodo ventris infimi capacitas angustatur, dum hinc atque hinc, super subterque, contenta ejus arctissimè constringuntur; nec punctum ferè in tota regione abdominali ingentis pressuræ expers reperitur; cujus vim admodum insignem esse testatur vehementia, quâ sursum exploduntur ventris contenta: certa enim suadent experimenta, nullam inesse ventriculo potentiam contractilem, quæ ista possunt exhaurire; donec conspirans simul partium modò memoratarum compressio fortis evacuationem integram absolvat. Tantæ ergo violentiæ viscera subjecta mollia participes fiunt, unde insignes utilesque effectus exspectandi.

37. Antequam verò harum disquisitio instituat, incolarum abdominalium actiones, methodo sequenti, generatim disponere haud alienum est; ut perspectis horum muneribus, faciliùs cernantur mutationes morbosæ, clariùsque patefcat quòt quibusque modis in subsidium venire possit compressio vehemens, mechanica, alterna, in hæc viscera.

38. Horum munera præcipua sunt, 1^{mo}, Ingestorum præparatio, ut naturæ egestatibus succurrendis nata sit materies. 2^{do}, Hujus separatio, ut quæ refectioni apta sit ab ineptis amoveatur. 3^{tio}, Ejusdem in sanguinem, per instru-

menta extra abdomen posita jam conversæ, ulterior elaboratio. 4^{to}, Secretio liquorum vitæ usibus egregiè famulantium. 5^{to}, Denique partium solidarum et fluidarum residui, effœti nunc facti, à nutrititiis separatio et ejectio. 1^{mo}, Officinam præparantem ventriculus et intestina tenuia præbent. 2^{do}, Fluidiora à crassis segregant vasa lactea et absorbentia. 3^{io}, Sanguis ad arterias amplas meseraicas, cæterasque per ventrem dispersas, perpetuam patitur concussionem, compressionem reciprocam, propulsionem : quæ omnia, in splene præsertim, conspicua. 4^{to}, Cruor ita subactus, per appropriatas portas, v. g. per hepar, pancreas, totamque glandularem catervam, ubique per infimum ventrem dispositam, perpetim emanat, indole et formâ mutatis, juxta determinatas organi cujusque naturæ leges. 5^{to}, Ramenta crassiora, corrupta, et per tubum protrusa tempestivè excernuntur : sanguinis pars tenuis et aquosa, detritis onusta salibus, oleisque nutritioni ineptis, per renes abit, constituitque urinam. Cuncta hæc officia, tempore eodem, et eodem auxilio promoven-
tur ; alternatâ scil. et constanti agitatione ; quæ respirationis est comes assidua et necessaria. Patet enim, quòd si sisteretur motus abdominis, et lenis ista succussio cessaret, nulla vis adesset, quæ per tot tamque angustos tortuososque canales, ingenti interdum oneri subjectos (ut ii sunt, qui per inferiora repunt) contenta in eis fluida propellere valeret : impetus quo vibrat cor, labori effet impar ; et insignis illa potestas, absorptio dicta, quâ fluida ex cavis intra venas hauriuntur, licet tanta ut nullis præscriptis finibus coercenda sit, citò deficeret. Nam sponte nata visciditas, cessante motu externo, canales paulatim obturaret, atque in exilibus tubulis tot impedimenta deponeret, ut sensim in omnibus progressus brevi tolleretur, in quibusdam visceribus, vel in omnibus, prout malum proserpsisset latius, aut arctiora castra metâisset. Et quidem morborum Ætiologia demonstrat, plurimos ex eis, qui abdomini insensî sunt, ex hac vel istâ, vel utrisque simul causis nasci. Remedium igitur attenuans, motumque properans, præ cæteris indicatur.

39. Nisû itaque vomitûs, viscerum superficies contra se mutuò validè comprimuntur, eorum moles imminuitur, compinguntur tranantia fluida, atteruntur, propelluntur ; adversus canalium latera urgentur, et quâ datur exitus confestim exprimuntur. Hinc secretio fit expeditior, celerior expulsio ; crassi resolutio, ejusque subactio et ejectio ; denique actionum omnium [§ 37.] maturatio, organis ipsis vigor, et, omnibus superatis obstaculis, agendi facilitas ; ex quibus primariò pendent et quantitas et qualitas istarum secretionum, quæ sanitatis præsidia haberi possunt.

40. Interior ventriculi cavus conferto glandularum agmine vasisque exhalantibus obsidetur, ex quarum osculis, villosis, flexilibus, assiduò fluit humor, quo lubricus madidusque servatur ipse, defenduntur ab assumptorum injuriis nervi, promovetur chylopoiesis. Humorum verò crassities, sive indoles mu-
cosa,

coſa, qui hæc loca ſalutant, accedente motu languidiore (prioris plerumque comite) neceſſariò ſecretionem minuit tardatque; glandulas infarcit viſcidis, ſenſimque munus earum evertit. Hinc gaſtrici fluoris penuria, cruditas inde et indigeſtio, appetitus deletus, aut nimius, ſtomachi ardor, aliquando nauſea ſitiſque. Eadem quandoque occurrunt mala, ab arefactâ ſordium cruſtâ cavitati ventris obduſtâ; ſicuti poſt febrem acutam diuturnam, ubi vulgus adſtans, aut medicus fortè crudelior, injuſtè naturæ poſcenti ipſam lympham denegabant. Diluentia in hiſce caſibus haud ſufficiunt; hæc enim ulterius laxant vaſa; hinc tardiùs propulſa fluida cunctando brevi craſſeſcunt, haud parvo labore iterum ſolvenda. Hiſ infortuniis iſtud remedium haud infimi uſus eſt, quod præſtat effectus ſupra enarratos [§ 29.] Inſtar enim pulmonis alterius totum abdomen cenſendum eſt. Munera quidem ſibi propria ſingula viſcera nanciſcuntur, ſed motus ſupervenit aliunde, quo perpetua fluidorum in unoquoque mutatio inducitur, provehitur; perinde ac in pectore res agitur, miſtio ſcil. compreſſio, attritio, ſolutio, atque ſimilia: ejuſdem cauſæ effectus idem, licet organis diverſis abſolvatur. Vomitu itaque citò perficitur, quod lentis vicibus conſequi nitebatur, ſed incaſſum, natura.

41. Alvus conſtricta, ſegnis, et ſolitariæ vitæ aſſueta comes, haud naſcitur ſæpius quàm à deficiente muco inteſtinali, et liquoris gaſtrici, glandularum et vaſorum [§ 40.] ſobolis abſentiâ. Hic enim molles fluidaſque fæces reddere debet; ille verò lapſum facilem iis conciliare. Cauſa defectûs eadem, ac ſupra [§ 40.] memorata, et levamen eâdem medelâ, adſcito motûs et exercitationis auxilio, tentandum. Ab hoc ſolo fonte ſemper enaſci malum non aſſeritur; at verò ſi ab alio quocunque ſemel fuerit inceptum, augmentum exinde capit, et alvus ſegnis tandem aſtricta devenit. Fæces quidem educunt *κῶρω* purgantia blanda, præſens auſerunt incommodum, moleſtias iſtiusmodi ſtatûs plerumque conſortes leniunt. Si verò remediis, quæ tam pulchra præ ſe ferunt, nimis indulgeat æger, quoties alvus obſtipata reducit ærumnas, ſecutura nocumenta vix evitabit. Talia ſunt, alvus adhuc aſtrictior, humiditate omni cum fæcibus educâ, et viſcerum oppilationes, inſarctiones à craſſo relicto. Duplici itaque de cauſa [§ 34, 40.] ſeſe commendat emeſis, hominibus iſtis, qui vitâ fruuntur inerti; quatenus ſcilicet et expellit cruda, et viſcidos attenuat liquores, accelerando motum, et proinde humectantis optimi vice fungendo.

42. Ventriculum et inteſtina gravat nonnunquam vitium priori oppoſitum; ſcilicet aquoſi laticis diluvium, quo ſubmerſa ilia fatiſcunt, calorem amittunt, et intrumenta muneri vitali dicata huic obeundo imparia ſiunt. Gravitas et languor circa præcordia; ſputatio frequens; edendi cupido perexigua; aquoſæ colluviei ejeſtio per os, mane præſertim infeſta; nauſea gravis brevi deſinens;

ſedes

fedes liquidæ, crebræ, doloris expertes; unâ cum corporis universi debilitate, inertia, atque pallore hanc indicant illuviem, simulque ferofam solutamque sanguinis indolem. Memorata symptomata correctionem haud obscurè innuunt. Expressio liquidi redundantis, et robur additum canaliculis primò necessaria sunt, tum secutura inde compacta sanguinis crasis, et mutata diathesis pituitosa: his imprimis conferunt emetica. Hinc itaque patet cur ventrem solutum vomitus comprimatur, compressum solvat, juxta Hippocratis placitum (a), Celso repetitum, ratumque.

43. Pancreatis structura et munus, salivalium glandularum æmula, illud objiciunt similibus malis, secretioni nempe impeditæ, vel nimia. Utrique prodest emeticum; obstructionem quippe, si non nimis pertinax sit, referat, exuberantem laticem potenter emungendo exsiccat.

44. Inferiùs paulò, ab osculis lacteorum exsuguntur liquefacta ingesta, quæ statim ad glandulas meseraicas feruntur. Tardus istorum motus, et vascula tam exilia et tortuosa tenuiorum à crassis separationem promovent, dum difficile reddunt chyli ad sanguinem iter; illis præcipuè qui debili stamine potiuntur, pravisque simul vescuntur escis; vel quibus harum partium structura mala contingit. Imprudens ætas, temperies sequax, et victûs crudioris malefuada fames, pueritiam, præ aliis vitæ stadiis, morbis ex infarctis et tumefactis glandulis meseraicis opportunam reddunt. Causæ similes in adultis similes edunt morbos, sed rariores; nam reipsâ constat puerulis hujusmodi infarctiones, glandulas abdominales occupantes, frequentiores devenire. Istis enim annis vix nobis occurrunt epulæ gratiores, quàm fructus crudi, immaturi, legumina et farinacea viscida, et, si magis indissolubiles pariat natura cibos, istis utimur imprimis, eos importunè petimus, eventûs luxuriosæ gulæ nullâ factâ ratione. Inde massa tenax in alvo formatur, quæ in fluorem viscidum, vix nisi formâ mutatum, tandem resolvitur, dilabitur è stomacho, occurrit bili inertî, eâ diluitur, vix tamen solvitur: tenuior pars abit in lactea, brevi præ tenacitate hæfura; quotidie renovatur causa, crescit augeturque obstructio, durior evadit tumor, vicina comprimit, aditum in venas claudit, atrophia nascitur, et homunculus indies marcescit. Vel, si ad tantam sævitiem morbus non attigerit, nec penitus obturentur glandulæ, imperfectus chylus sanguini affunditur, eumque labe contaminat; secreta, cruoris proles, vitiantur, affectis ubique ferè glandulis; eisque præcipuè tumefactis, quæ collum faciemque obsident: unde vultus fit prætumidus, torvus, et veram strumam, aut diathesin eò vergentem, adesse designat. Tetrica certe rerum facies hæc, et medenti nodus intortus; suum enim robur perdere solida, justo viscidius fluida coguntur:

(a) Celsi medicina, lib. i. cap. 3.

hinc depravantur, et quæ assumptorum mutationem in corporis naturam ut plurimum debebant perficere, eam imperfectam relinquunt. Præterea, glandulis obturatis, præcluditur ipse meatus, per quem novas vires ad sanguinem mitti oportebat. Huc adde quòd semel oppilatæ glandularum cryptæ difficilius purgentur, et muneri suo minus aptæ reddantur: unde facile constat, ad morbum adeò pervicacem debellandum omni subsidii genere utendum esse. Tumorum resolutio imprimis tentanda, ut vitæ pabulum, depravatis medela, robur debilibus, quantum victu et remediis fieri possit, subministrentur. Deinde partium, in quibus mali sedes, ita firmanda crasis, ut gravantia liquida subigant, expellant; curatâ interim vivendi normâ. Qui situm mesenterii callet, intelligit facile, quantâ cum violentiâ, nisu vomitûs, illud undequaque prematur; et quinam inde futuri sint effectus in glandulas recens infarctas: in vicina fœdâ spurcitie cumulata [§ 39.] in pancreas eâdem scatens [§ 43.] in ventriculum denique, sursum evocando liquores acres [§ 34.] hunc infestantes, et novas subinde vires morbo suppeditantes. Sedulo autem perquirendum erit, si integra sint viscera, si nullo ulcere corrupta, si à labe putrescente penitus immunia; sin minus, imprudens emesis hominem lædet. Idem quoque verum est, si ex sola laxitate continui solutio metuatur: tunc enim virtus mechanica parciùs adhibenda est. Nil ferè aliud prohibet, nec magni fructûs spes erit inanis, dummodo mobilis sit obstipans materies, et repetita vomitoria commodè ferant ægri vires.

45. Inter cætera abdominalia splen viscus est tenerrimâ compage donatum, cujus columnæ carneæ, musculosæ, ad fluxilem firmandam fabricam, plus quàm ad insignem cruoris quam accipit copiam propellendam, aptatæ videntur; nec labori par est arteriæ robur, aut cordis impetus, per vasorum numerum, et anfractus tortuosus, retusus. His verò succurrit assidua et lenis agitatio, quam connexio splenis cum diaphragmate, musculorum abdominalium propinquitas, positio pendula, isti conciliant. Atque per has causas præcipuè sanguinis progressum per vasa lienalia conservari censendum est. Ideoque si motus assuetus sistatur, vel diu minuatur, (ut in eis fit, qui vitâ utuntur deside, et domi peractâ) cunctatur in cellulis cryptisque sanguis, evadit crassior, et maximo cum obstructionis periculo res agitur; quum debita mobilitas, et impetus assuetus, facilis liberique transfluxûs autores, cessant. Diversa morbi ætas, causa diversa varium postulant lenimen; nec una medendi ratio lienosis omnibus convenit. Si recens infarctio, nec ingens durities; si ab exercitationibus omissis, et ex acriore abhibitâ rei cuicunque curâ nascatur; si gravedo distensione dolens, nec copiosa materies, atque temperies *εὐφορος* quoad cætera, compressio mochlica cum fructu potest adhiberi. Si verò durities schirrum indicet tactu, aut si prægressa febris inflammatum lienem in puris sacculum converterit,

converterit, ad alia fugiendum remedia, ne schirrus irritatus in cancrum abeat; vel perruptis claustris, quibus pus coercetur, purulento diluvio submergatur abdomen, aut fordidâ tabe obruatur hepar.

46. Inter morbos, qui jecori infensi sunt, fœda ista, et luteo colore cutim inficiens aurigo, sæpissime sensibus se prodit. Causas hujus mali proximas in scriptis medicis plurimas invenimus; singulas autem enarrandi vel discutiendi laborem mihi minuit elegantis illius exercitationis autor, qui de ictero tractatum *Tentaminum Med. vol. i mo (a)* inseruit. Cæterum cum egregio viro, qui nomen suum latere voluit, censere licet, longè frequentissimas icteri causas calculos esse, in vesicâ felleâ satos, per meatum tortilem ex eâ derivatos, et limine nimis angusto hærentes. Nam præter historias, quas ipse auctor adducit, ratiocinia ejus plurimum stabilire videtur alia, (b) quæ volumine sequente traditur. Si itaque hæc sit vera rerum facies, (ut maxime verosimile videtur) cæteris remediis mechanica sunt anteferenda: ambulatio, equitatio, aliique motus quibus fortiter jactatur corpus, in hunc censum vocantur, ut eorum ope lapillus ab angustis extrudatur, et bilis repressa effundatur. Descensum fanè egregiè promovent auxilia recensita; sed deficiunt nonnunquam, et duriori cuneo morbus indiget. Si unquam profit emeticum virtute quavis mechanicâ; unquamve sperandi effectus hujus salubres; et morbi sedes, et causæ genius, hîc mentem fructûs spe lactant, nec sæpe inani. Hausto enim copiosè liquore, turgidulus fotu tepesacto faccus, ipsi ferè ductui constricto apponitur, eumque laxat; dum urget à tergo bilis, ingenti contractione [§ 36.] protrusa. Aut si causas alibi ponamus, v. g. in poro biliario, in primo ejus exortu à portarum extremis, aut ubivis præterea, easque materiem crassam, purulentam, vel hærentes lapillulos agnoscimus; haud minimæ efficaciz erit emeticum, si artis adjumento malum debellari possit.

47. Per sympathiam, ob commune nervorum consortium inter ventriculum atque renes, perque motus turbasque in illo concitados, quotiescunque hi dolore afficiuntur, viam indigitasse videtur dux natura, quâ sedibus excutiatur quicquid inimicum foret renibus diuturniore morâ. *i mo*, Gypsea, mucosa, purulenta materies hîc nata, vel per metastasin aliunde huc provecta, crassior quàm quæ per exiles canalium fines exire possit, vel egressa diutius quàm fas est in sinu renali stabulans, augmentum quotidie capit, mole crescit, vicina premit, vel atterit, et cruciatûs atrocissimi existi auctor. Sæpe formatus jam calculus casu in ureterem, hospiti tanto recipiendo nimis angustum, protruditur; cujus tunicæ musculosæ, sensiles, scabrâ lapilli superficie rasæ, arctiùs

(a) Medical Essays, &c. Vol. i. Article 33.

(b) Idem, Vol. ii. Article 28.

hunc complectuntur, et ulteriori progressui fortius obstant, sævientibus interim doloribus omnem fere tolerantiam superantibus. V. S. imprimis celebratâ, universalibus et topicis strictura tollenda est; deinde vis mochlica præstat quod arte præstandum. Nec unica hæc est vomitorii virtus in hoc morbo, sed fomenti vicem gerit epotus liquor, qui cum injecto clysmate balneum internum faciunt, quod aquoso suo halitu relaxat contracturas, et, ventris infimi contenta adaugendo, in renes aut ureteres vim magis intendit.

2do, Morbosa renum flacciditas, infracto vasorum robore, tale nonnunquam emitti patitur aquosi laticis profluvium, ut speciem istius morbi simulet, qui Διαήτης Græcis appellatur. Exit crebrò urinæ aquosæ, tenuis, decoloratæ, odoris saporisque pene expertis, copia spectabilis; sitis adest molesta, virium prostratio, fluidorum ingens dispendium, et solidorum detritio. Pejor morbi species ea est, in qua fit effluxus liquoris albicantis, chylosi, subdulcis, reliquisque stipata signis, quæ propria huic morbo dedit praxis vetustior, et comprobatur hodierna. Licet enim morbus rarissimus, cernitur tamen aliquando. Sive jam natus sit à relaxatis renum vasis, sive à fluidorum dissoluta crasi, sive ex alia quacunque προφάσει, uti loquitur (a) Sydenhamus, “Curativæ indicationes, ad sanguinem corroborandum, invigorandum, ac pariter ad fluxum urinæ præternaturalem restringendum omnino dirigendæ sunt;” cui addere licet, ad morbosam renum laxitatem auferendam.

Quæ de virtute emetici exsiccante supra [§ 42.] dicta sunt satis evincunt, quantum prioribus indicationibus hæc respondeant. Renum situs, ossibusque duris vicinitas, quid mochlicè ii patiantur ostendunt, et quam fortiter impetus humidum redundans ex ipsa renum substantiâ emungat. Sanè excutit quodammodo macerantem lympham, et amissum tonum fibræ elatere suo privatis restituit.

48. Vix opus est monuisse, quàm immaniter uterum sarcinâ tumentem comprimant muscoli [§ 36.] spasmo validissimo contracti. Propius igitur instante partûs exclusione, sedulò fugienda sunt quæcunque istis calcar addunt. Sed eandem ob causam videre est, quanta spes ab eodem fonte profluat, si parturienti deficient vires et repetito conamine eousque robur prosternatur, ut quamvis situ legitimo potiaturs infans, nec justam molem multò exsuperet, nec adeò arctetur exitus, quin par operi potentia partum produceret; emeticum, quod promptè, quod potentèr agat, quod citò coercendum, faustè sæpe rem peragit; nec tumultus, calores, aut incendia febrilia parit, quæ comites atque sequaces sibi adsciscunt aromata, et præsertim ardentes spiritus istis acuminati, et ejusmodi plura, quæ ab aniculis, suo more, in magnum plerumque ægræ incommodum affatim porriguntur.

Alii sunt uteri affectus, qui levamen ab eodem remedio capiunt: quum verò, licet ultimas sedes in hoc viscere posuerint, vitia tamen per totum cor-

(a) Sydenhami Epist. Resp. oper. p. 272.

pus dispergunt, hæ tanquam effectûs generalis causæ spectandæ. Fomes itaque in universo habitu delendus, priusquam utero redierit pristina salus. Quantum huic intentioni arrideat emeticum, postea dicendum.

Perspectis hoc pacto singulatim præcipuorum viscerum culpis, saltem quæ à remediis mochlicis commoda accipiunt, effectus qui totum corpus respiciunt perpendendi, et mutationes indagandæ, operationis tantæ progenies.

49. Præter insignes vasorum truncos, qui ventrem pervadunt, qui ad organa diversa sanguinem deportant, qui ab extremis referunt, quique in unum collecti portarum stirpem constituunt; milleni istorum furculi viscera perreptant, et variis ambagibus iter tentantes, plures formososque vasorum plexus constituunt; per quos assiduò propelluntur humores inquilini. Per vomitum vasorum situs, magnitudo et figura omni momento variantur, ita ut actio nata sit pulmonum actioni simillima. Si verò numerum vasorum abdominalium, et vim quæ eis eorumque contentis nisu vomitorio applicatur, in censum revoces, pulmonum vires, et actiones maxime potentes longè superari videas. Adde quòd hoc ipso temporis puncto, strenuius multo ab iis res geratur quàm solito more fit. Inferre itaque nil vetat uniuscujusque munus sanguificandi summoperè exinde provehi; id est, compactio, densatio, attritio, solutio, miscela cruori eximiè conciliantur. His quoque famulatur aucta sanguinis velocitas; comprimuntur enim arteriæ, et quæ per ventrem vadunt, quæque etiam per artus dispertiuntur. Musculi enim plerique leviori tetano, dum nisu instat, horrescunt, ut cuius patebit hominem evomentem spectanti. Musculi, qui pectus humerosque ambiunt, sustentant costas figuntque; exporrecta brachia suffulciunt corpus, quibus opitulantur illi musculi qui dorsum vestiunt, antrorsum curvatam spinam in situ commodissimo detinendo; crura rigescunt, et instar immobilis statuae æger ore hiant vomitûs insultum expectat. Vasa itaque sanguifera musculorum comites, æquè ac abdominalia, pressuræ subijciuntur, et eadem pati debent: minuuntur arteriarum diametri; ruit ergo compressum fluidum quo patet exitus; recessum prohibeturgens ejusdem à tergo columna; progredi necesse est, ocyùs itaque venas appetit: harum tunicæ minus rigidæ faciliùs vi cedunt externæ; idem itaque his accidit, comprimitur nempe pelliturque sanguis; valvulæ frequentes pedem revocare vetant, pergite ergo celerius et pleniori fluvio ad cor accedit; inde crebrò repetitis ictibus perculsus, properè cursus iterat eosdem. Prædicta docent, nec obscurè; 1^{mo}, Hæmatopoiesin emendari. 2^{do}, Secretiones augeri. 3^{tia}, Solida novis viribus instaurari. 4^{to}, Denique sanguinis momentum intendi, et sepositis impedimentis circulo liberiori frui. Atque ex hisce principiis faciliè patebit, quinam sint morbi τῆς μοχλείας δεόμενοι, et quare tot tantaque, tum in fluida, tum in solida, efficiat vomitorium: in paucis tamen ejusmodi morbis horum usus perstringere haud à proposito alienum erit.

50. Præteritâ jam hyeme, solida, acri gelu priùs rigescencia, laxantur iterum,

rum, atque fluida, ab enervatis vasis minore impetu propulsa, verno tepore spiffescunt, et levi de causâ in extremis vasculis sistuntur, deficiente quoque consueto solidorum robore; aëris humiditas sordes accumulât, et corpus debile, fœcibus gravatum, multis malis opportunum reddit. Inducit fortasse natura febrem benignam intermittentem, quæ molestum onus brevi excuteret, sanum vegetumque corpus daret, si sibi commissâ ab opere non deturbaretur. Urget tamen querulus æger, dictis amaris medicum laceffit, et spreto consilio, fortè ab aniculis intempestivum morbi levamen, millenis sæpiùs malis stipatum, sibi comparat. Emeticum secundat naturæ ausus; et, si radicitùs haud extirpet, tutam tamen expedit in sanitatem viam [§ 32.] etiam sæpiùs repetitum prodest. Febris intermittens autumnalis emetici subsidium haud minùs efflagitare videtur, tum ad amurcas ex primis viis exhauriendas, tum ad vitia, quorum radices altiùs hærent, corrigenda.

51. Febris lenta, continua, morbo priori affinis, gradu major, ab eisdem fortè causis, idem circa tempus, quandoque grassatur; immobilior videtur materies, quæque diuturno naturæ labore nullo modo subigi vel expelli possit: hinc nulla remissio; parum tamen mordax est, ergo haud impetu magno exardet. V. S. cum sanguine emittit vires, quæ in hâc febris specie fatiscunt nimis; alvi subductio, si lenis, parum confert, si fortiùs res agatur, debilitat. Naturæ inceptis favere medici est; feбри ergo flammæ subjiciendæ, ut irritos conatus absolvat, crassa subigat, et expellat subacta quò nocitura non sunt. "At si frigus est et torpor, inquit Celsus (a), et jactatio corporis; non alienum est, in ipsâ febre, dare mulsi tres aut quatuor cyathos, vel cum cibo vinum benè dilutum. Intenditur enim sæpè ex eo febris, et major ortus calor simul et priora mala tollit, et spem remissionis, inque eâ curationis, ostendit." Nec quidem minora ab emeticis efficiuntur. Adest nempe vis insignis spirituum motum accelerans [§ 18, 19.] evacuantur sordes in ventre latentes [§ 30.] viscida subiguntur, si quæ abdominis incolas obsideant [§ 39.] denique sanguinis intenditur cursus, et augentur secretiones [§ 49, n. 2, 3, 4.] tenues, per exteriora præsertim.

Neque ulla fortasse est methodus efficacior vel utilior, quâ sudor elici potest, quàm post exhibitum vomitorium; non modò enim in ipsâ operatione copiosus plerumque exprimitur, sed exteriora versus tam validè trudentur liquida attenuata [§ 49.] ut dimotis obstaculis, quæ orificia cutanea claudunt, effluant pleno rivo humores istuc determinati. Atque huc egregiè confert opiatum, quod post emeticum dari optimo consilio suadent practici. Vomitorium præterea evocat squallorem primas vias fœdantem, et præcavet ne exhibito hydrotico, eoque disperso per corpus fomite, manus hostiles in viscera convertantur.

(a) Celsi Medicina, lib. 3. cap. 5.

32. Eadem doctrina innuit quanti sit usus emeticum in tenui acrique catarrho, in asthma humorali, aliisque ejusmodi morbis à frigore correptis; quum sciz. retenta materies perspiranda, vasa eoque inertis fluido replet, ut functiones omnes pœnas luant; quum gravitate pigra sensus hebescant, et ad stateram ferè corporis pondus auctum esse diceret; distensa denique vasa doleant, partesque sensiles ægrè laceffantur. Cum hæc et alia ejusmodi symptomata se produnt, remedium exhibendum est, quod portas referare, liquores superfluos expellere, atque solitam agendi facilitatem corpori restituere possit. Haud parùm his confert emesis; et quacunque corporis parte ægritudo suas sedes posuerit his causis orta, multùm valere possit. Ponamus glandulas, cæteraque vasa circa fauces et collum, tantâ scatere aquarum copiâ, ut defluxionem brevi adfore indicent signa, vis mochlica sæpe salutaris est. Rubens etenim tumensque facies, oculi scintillantes lachrymis suffusi, liquore suo madefacti nares, et salivæ mucique rivulum fundentes oris fauciumque lacunæ glandulosæ, conatus emetici nunquam non comites, liquidò demonstrant quantâ cum vi appetat has oras sanguis, et quantus in vascula obstipata impetus sit: dum canales offei cedere nescii, et insignes vertebralium et carotidum internarum arcus et ascensus obliquitas cruoris ad cerebri appulsum valdè retundunt: fluxilis ergo hujus compages minus periclitatur, impetu ut plurimum extrorsum determinato; parùm tamen introrsum vis aucta devenit. Et partim fortè hinc, partim à virtute stimulante et evacuante, ratio patebit cur in vertigine, hemicraniâ aliisque similibus, vomitus tanti sit usus; cur in epilepsiâ quandoque in senibus adeò profuerit, ut fatentur observatorum scripta; “Inveteratam epilepsiam, quæ etiam per xx annos ægrum traxit, curatam novi, inquit Hoffmannus (a), ab emeticorum usu et specificis antiepilepticis ex animali regno petitis.” Nec mihi defunt historiæ similes, at referre prohibent limites præscripti.

33. Impedit eadem ratio, quò minus horum usus in variolis distinctè enarretur; non modò quatenus evacuant, et avertunt alioqui futura mala [§ 30.] sed ob alios etiam quibus potiuntur effectus [§ 49.] et eximias inde manantes mutationes. Pustulis refertam esse cutim ponamus, vascula perspiratoria ita compressa ut coactam materiem vis solita nequeat protrudere: hoc in casu contentorum moles augetur; calor febrilis ita ad interiora exæstuat, ut organa intus exhalantia adeò arefacta, vel alioquin obstipata evadant, ut suum munus exsequi non possint. Ex utraque parte cohibetur idcirco fluidum, quod diuturnum nimis circuitum jam patitur, quodque longiore morâ pessima mala pariturum est. Calor enim nimius acrimoniam gignit, unde stimulus partibus nervosis: hinc iterum febrilis æstus sitisque, fortasse

(a) Hoffmanni dissertat. Decad. 1. p. 204.

delirium, huic supervenit; ab auctâ fluidorum mole anxietas præcordia infestat: quum interim calore crassiora deveniunt fluida, coagulantur, et inepta magis redduntur ad exitum sibi aperiendum per ea loca quæ sæpè indigitat natura, sciz. per fauces vel intestina. Exigunt hæc mala coagulati in vasis exhalantibus utriusque loci resolutionem, evacuationem, reliquisque conciliatam fluiditatem, nec auctâ interim febre plusquam per lene opiatum tutò coerceri queat. Qui prædicta [§ 13, 18, 39, 49.] de emeticorum effectibus, tum in fluida, tum in solida, in mentem revocaverit, hæc non inepta esse auxilia, imò aptissima forsan prædicabit. De febribus acutis agens Sydenhamus hæc profert. (a) “ Sæpe miratus sum, inquit, dum fortè materiem vomitu re-
 “ jectam aliquando curiosè contemplabar, eamque neque mole valdè spec-
 “ tabilem, nec pravis qualitatibus insignem, quî factum fuerit, ut ægri tan-
 “ tum levaminis exinde senserint; nempe vomitu peracto sæva illa sympto-
 “ mata (nausea v. g. anxietas, jactationes, suspiria luctuosa, linguæ nigredo,
 “ &c.) quæ et ipsos excruciarant, et aditantes perterrefacerent, mitigari so-
 “ lent ac solvi, quodque morbi reliquum est *εὐθύμως* tolerari.” Quum verò ex antea dictis pateat, fluida crassa solvi, canales obturatos reddi tranabiles, totum corpus arefactum humectari, simulque nociva expelli, mirandum non est levamen tam subitum inde evenire.

54. Beneficiis sic cursim enarratis, quæ ab emeticis lucrantur morbi acutiores, via sternitur ad alios, in quibus occasio minùs præceps, nec adeò fallax experientia, licet judicium satis difficile: Vomitoria certè isti morborum cohorti præcipuè adversari videntur, qui vel in ipso ventriculo, vel in visceribus propè sitis ortum sedemque obtinent, et hujusmodi omnes ferè morbi chronici sunt. Vitia enim hinc nata longè latèque brevi dispertiuntur, iterumque effectus temeratæ salutis ad hæc loca revertuntur. Hoc nullibi clariùs conspicitur, quàm in eis morbis, qui cum mentis alienatione junguntur, quique à pravo victu, vel in eo assumendo errore, ut à causâ proximâ eveniunt. Licet enim ab animi pathematibus, ab evacuationibus, aliisve causis remotioribus enascantur, victûs tamen inepta ratio sæpè constituit propiorem. Innumeri nervorum furculi ad ventriculum emissi, neque ad ipsius nutritionem, neque ad motum quemlibet provehendum tantummodò comparati sunt, sed potius ad chylicandi operam adjuvandam. Dispersis itaque nimîâ copiâ spiritibus, perditur ex causis sanitatis una; assuetæ scil. ciborum mensuræ, in nostri naturam mutandæ, imparia deveniunt instrumenta: assueta tamen mensura assumitur, et dum cætera æqualia non sunt, necessariò enascitur indigestio, et inde alia mala. Hæc origo sæpissimè est affectionis hypochondriacæ, et reliquorum quandoque graduum mentis læsæ, à vacillatione le-

(a) Sydenhami Op. sect. 1. cap. 4.

vissimâ ad summam usque insaniam. Docent phænomena hujus morbi in fluidis præ primis hæere culpam, hancque esse nimiam crassitiem, sive partium mobilissimarum distillationem: hæ sunt spiritus animales, halitus cruoris vaporosi, et aquea dein ejus elementa, quorum minus majusve dispendium morbum efficit leniorem vel graviorem, dum sanguis per varios spissitudinis gradus transit, donec in veram bilem, à veteribus atram dictam, degeneret. Quodcunque de hujus morbi naturâ cognitum habemus, præceptis chemicis ut plurimum acceptum referendum est, quorum ope hîc, uti etiam in aliis benè multis, plurima phænomena, alioquin abdita prorsus, deteguntur. Ex chemicâ sanguinis analysi constat, distillatis aquosis superesse salina, oleosa, terrestria, diversimodè conjuncta, sanitatis muneribus parùm apta, utpote quæ crassiora et leviora sanguine sano. Eadem etiam chemia fidis experimentis demonstrat, oleum, salem, terramque unita, plus aëris in se continere, quàm aquam reliquis conjunctam. Hujus testis sit calculus humanus. Ergo solida præpollent fluidis, ocyus hæc circumaguntur, et augetur tenuioris dispendium, dum crassescens residuum intimam cum diluentibus admistionem respuit. Ingesta haud satis subacta morbo addunt, viscera molliora obstipant, actionem minuunt tolluntve: hincque splenis, hepatis, hypochondriorum oppilationes, tumores, dolores. Sanatio requirit viscido restitutionem fluoris et miscibilitatis. Hæc fiunt per diluentia, saponacea et attritum. Diluentia sola parùm valere ostendit exposita morbi natura: sola saponacea, efficaciora licet, rarò sufficiunt; adjuvantibus verò attritu et calore omnem quam possident vim exerunt, docente chemiâ. Denique attritus in hoc morbo rarò per stimulantia vulgaria intenditur, quin hæc sæpè nociva comperta sint. Inde quidem augetur sanguinis celeritas, sed simul augetur ejusdem rarefactio. Compertum autem est attritum esse in ratione celeritatis, soliditatis, et compressionis. Si itaque auctæ rarefactionis ratio superet rationem auctæ celeritatis, inde non modò non augebitur attritus, sed, è contrario, minuetur. Postulatur itaque remedium quod sanguinis celeritatem intendat, rareficientiam cohibeat. Tale, in nisu vomitûs, reperiri, facilè ex prægressis liquet. Hinc obiter patet utilitas submersionis in aquâ frigidâ.

55. Huic morbo ex diametro opponi videtur hydrops, in quo lymphæ ferosa viscera submergit, et pallescens sanguis corpus deturpat ingrato colore, docetque aquam exuberare, et vitio diverso, oleum, terram, salemque deficere.

Dispositione pituitosâ in fluidis subortâ (quæ à multiplici causâ fit, quarum aliquas haud inconcinnè memorat Poeta (a),

(a) Sammonicus.

*Corrupti jecoris vitio vel splenis, acerbus
Crescit hydrops : aut cum siccata febre medullæ
Atque avidæ fauces gelidum traxere liquorem :
Tum lymphæ intercus vitio glifcente tumescit,
Secernens miseram proprio de viscere pellem.)*

statim ita debilitantur solida, ut torpidos liquores vix propellere possint. Hinc stagnatio in lateralibus vasis, et functionum languor. Indies accumulatur serum, turget, propinqua lædit, et perpetuò renovantur morbi causæ. Si contingat hæc in unico vase, hydatis formatur; si κατὰ φλέβας, seu per tunicam cellularem per omne corpus dispersam, fit leucophlegmatia; si ruptum vas effundat contenta in cavum quodcunque, localis hydrops suboritur: si denique (quod sæpissimè in causâ est) actio venarum absorbentium debilitetur, sive ab obstructione in eis natâ, sive à mero languore et inertia solidorum; dum suo munere funguntur arteriolæ inhiantes, et squallentem laticem sine fine in cavitatem eructant: hîc continuò accumulatus spissescit, vasa omnigena brevi effœta reddit, et hydropem topicum producit. In hoc morbo curando primaria morbi causa minuenda vel adimenda est; attenuantia, evacuantia, exsiccantia, roborantia uniuscujusque ordinis usurpanda; ut tandem amoveatur onus humidum, minuatur latex, et vasa edusque viribus instaurentur, ut officio debito fungantur, et fluidorum nativa bonitas redintegretur. Hisce omnibus absolvendis dicata plurima apud practicos remedia invenimus. Nescio quot specifica celebria ab iis recenseantur, quæ uno ferè ictu morbum profligent, si fides eorum promissis sit habenda. Displicet aliis hæc curta supellex, et in vitium incidunt contrarium; pomposam memorant farraginem, et remediorum cumulo obruunt ægrum. Utraque praxis evitanda, neque solis emeticis curatio committenda, nec sine his tentanda; cùm longiores adimant labores, et compendio quasi rem gerant, quæ pluribus adminiculis cæteroquin indiget. Remedia antihydrica, priùs memorata, suum opus absolvere videntur, motum et attritum fluidorum ciendo, pellendo, dissilando exuberantem lympham. His omnibus simul conducit nifus emeticus fortis, sæpiùs repetitus: crassa quippe comminuit, obstructa referat, propellit stagnantia, humida exsiccant, secretiones aquosas auget, solutum sanguinem compingit, resolvit viscidum, celeriore ad extrema facit appulsus, movetque sudores. Adde quòd ingentem in tumefactum abdomen vim exerit, et quum in hoc tantummodò sedem habet morbus, nec quopiam viscere pessundato, nec in corpore valdè senili, et recens sit, repetitis emeticis, benè institutâ diætâ, et exercitatione modicâ, res tutò expeditur, nisi in iis sit, (a) " quibus inutilis libertas est, nec tam facilè " coguntur ac ii, qui servitutis beneficio convalescunt." In hydropis etiam

(a) Celsi medicina, lib. iii. cap. 21.

profectiori gradu haud parùm conferre visa est emesis. Idem comprobat historia apud Forestum (*a*) recitata de quodam hydropico, qui “ inflatus ventre, “ manibus, pedibusque et facie, à medicis destitutus, et tanquam desperatus, “ adiit littus marinum, et naviculam per aliquot miliaria ascendit in altum “ maris, et provocato vomitu, post vomitum exercitio utens, sanitati restitutus “ est.” Huc afferre licuerat Sydenhami suffragium, quod in tractatu suo eleganti de hydrope crebrò fert, et sententiam de horum commodo plurimis exemplis iteratâ observatione ratis, suffulcit; at diserta ejus verba in arte seniores probè callent, ad ipsum libellum juniores lubenter amandantur, cujus evolutio,

----- *si propius stes*

Te capiet magis; ----- et

----- *decies repetita placebit.*

Hoc tamen in morbo haud mochlicis pugna committenda est, nisi viscera aliaque ita se habeant, ut antea [§ 44.] observatum.

56. Ex enarratis hætenus liquidò patebit, in morbis plerisque à colluvie ferôsâ natis, quænam ab emeticis exspectanda sint. Patebit quoque horum usus in morbo qui puerulis utriusque sexûs infensus, gravis nec infrequens, rachitide scilicet; qui à vitiis in abdomine natis, ad medullam usque dispersis sæpiùs productus, ipsa corporis fulcimenta pedetentim suffodit, et durissima ossa, inflexibilia ferè, nimis facilè flectenda reddit. Mali ortus et progressus, curatoria indicata, nec non ratio, quâ huic morbo vomitoriis iteratis occurrì possit, ex sequentibus clariùs cernuntur (*b*).

1^{mo}, Ossa, quæ in toto corpore jam solidissima sunt, olim gelatinæ fluxiles, membranæ, cartilagine fuere, quæ paulatim durescentes, per diversos soliditatis gradus, ossa tandem fiunt rigida.

2^{do}, Hujus indurationis causa duplex existit, materiæ scil. ossificæ à sanguine secretio, et secretæ appositio firma, sive compressio particularum ad se invicem fortis. Hæc effecta sunt virium vitæ integrarum, et muscutorum vicinorum incumbentium. Ideoque

3^{tio}, Si sanguis particulis ossium structuræ idoneis minus dives sit, secretio minor erit, et muneri suo ineptior. Porro, si absit actio musculosa, et vires langueant, altera causa ossificationis abest. Hinc itaque

4^{to}, Liquet istas conditiones, quæ rachitidem parere possint, omnes ejusmodi esse quæ chylopoiesin et hæmatopoiesin depravare solent. His ergo imprimis erit prospiciendum, et medicina id genus eligenda, quæ et vitium in ipsis officinis diversimodè corrigat [§ 18, 27, 39.] auferat, nocivos ejus effectus, in aliis locis pullulantes, emendet, atque impetûs motûsque formantis defectui optimè subvenire possit [§ 49.] Viscerum quidem saburram feliciter educunt

(*a*) Observ. lib. xix. obs. 33.

(*b*) Vid. Alex. Monro's Anatomy of human Bones, p. 34, &c. purgantia;

purgantia: sed si fortiora fuerint, aut nimis sæpè repetita, vires profternunt admodum, crassiora relinquunt, sed vapida, et obstructionibus creandis magis opportuna; et debilia jam facta solida adhuc debilitant. Emetica validè expurgant viscera, nec vitæ viribus adeò funesta, solida corroborant; imprimis si victus accuratus instituitur, si corpus in frigidam sæpè immergatur, si denique specificis leniantur subinde nata symptomata.

57. An in arthritidis insultibus utilis sit vomitus necne, quibus, quando et quoties exhibendus, definire haud leve est. Illi, quorum auctoritas mecum præ plurimum valet, in paroxysmis omninò ejus usum dehortantur, nisi urgeant nausea, vomitus, aliaque ventriculi sorde scatentis signa; et tunc lenia tantummodo admittunt. Alii (a) verò haud infimi subsellii medici stant contra; urgetque unus (b) se observasse “insultus arthriticos consuetos, perpetuò ferè mitiores, quando statim inter initia leni emetico, vel solo, vel cum “laxante mixto, prima regio à sordibus evacuata fuerit.” Qui valet, has lites dirimat: ego, iis missis factis, emeticorum usum in alio ejusdem morbi stadio demonstrare paucis conabor; id est, inter paroxysmos, ad futuros avertendos. Acris illa materies, in angustis hærens, et dolores cruciantes excitans, post exacerbationem podagricam (si rectè res geratur, nec intempestivo medicaminum externè vel internè applicatorum usu suffocentur incepta naturæ) expellitur, sudor lenis locum affectum perfundens, vel, si deterius adhuc malum, et sedes habeat profundiores, erumpens tophus, insequens inde levamen, symptomatum omnium remissio, hanc evacuationem criticam fuisse designat; ideoque morbi fomitis in sanguinem, partesque nobilioribus vitæ functionibus dicatas, nequaquam metuendus erit regressus, sed quod morbi jam superest instar alijs cujusque chronici sævioris abigendum. Fluida, si prava sint, mendis purganda, infirma solida roboranda, vires totius corporis instaurandæ, stirps denique atrocis mali quantum valet ars succidenda. His plurimum confert medicina gymnastica, quæ præ cæteris aliis suppetiis infracta membra novâ virtute reficit. Equitatio, vectio in rhedâ, curru, &c. sunt optima subsidia. At quoties hæc prohibet parum amica tempestas anni? Hyeme aut vere sæpissimè contingit podagræ decessus, pejus tamen adhuc si autumnò intermittat. Aër enim humore gravis frigidusque foràs egredi omninò prohibet; atque intra porticus, vel domûs penetralia, pedibus insistere, aut motu quovis corpus torqueri, ægrè admittunt artus distorti, et nuperis cruciatibus claudicantes. Frictio sanè leviter tantummodo mundat exteriora, neque evacuat è visceribus pituitam, quæ ob omissum tamdiu motum ea necessariò gravare incipit. Præterea rarò defunt ægro gratulabundi sodales, qui pignus amicitiae charius dare nesciunt, quam propriam salutem poculis evertere, hominisque ex morbo recreati exitium moliri, dum sanitatem pristinam verbis

(a) See Dr. Cheyne's Essay upon the Gout, p. 77, &c. (b) Hoffmanni Dissert. Decad. I. p. 411.

exoptant, reverà autem insidias sanitati istruunt. Ex his atque similibus causis, emeticum sæpè sæpiùs perquam necessarium est convalescentibus, neque ex prædictis colligere arduum erit quâ ratione exercitationis etiam fortioris vice fungatur. Patet etiam quibus modis actionibus animalibus opitulentur vomitoria, crassa quomodo subigant, denique plus minusve singulis indicatis respondeant: neque verentur ex practicis sagaces, bis in mense, sæpiùs quandoque, istiusmodi hominibus vomitum præcipere. Perspectis itaque horum commodis in chronicis plerisque, eos morbos levi pede percurrere animus est, qui sexui sequiori tantummodo infesti sunt.

58. Non modò vitæ ratio, sed ipsum ferè vitale stamen fœminis molliorem ac laxiorem temperiem dedisse videtur, nisi fors durior alienam impertita sit, atque mens sana, in corpore sano laboribus improbis indurato, eis firmitudinem donaverit masculæ vi omninò æmulam. Est tamen vitæ stadium, quo etiam hæc mulierum conditio ex errore levi pessimis obnoxia malis evadit; eo scilicet quo sexûs discrimina jam adfutura sint, id est, ad vel circiter annum ætatis 15: huc usque enim, sensu medico, genus unum idemque est. In quibus autem discrepant, quare, quæ causæ physicæ discriminis, referre non opus est; fusiùs ea ab aliis tractantur. Sed brevis morborum recitatio, quum lucidiori argumentorum explicationi inservire possit, proposito haud incongruum videtur.

1mo, Adveniente molis augmenti termino, eadem organa, quæ corpori virgineo pabulum ministrârunt et incrementum, plus pergunt conficere quàm sola corporis nutritio jam exigit; quod superest sanguinis per vasa uterina jam periodicè emittitur. Si diutiùs retineatur ob deficientes vasorum vires, vel impeditum exitum, plethora plethoræ superadditur, et morbi virginei indicia citò sese produnt.

2do, Si verò aquosus, solutus vel acris sanguis uterum pervadat, et momentum absit quo dilatentur vasorum oscula, eòusque ut rubrum sanguinem deponant; is lateralia permeat, in glandulas, quæ cavum uteri ubique obsident, infunditur, crassescit; exit tandem liquor viscosus, colore diversus, nunc albus [à quo *fluor albus* appellatur] vel albicans, vix lintea tingens, flavescens, viridescens, nigricans, et omnibus affectus coloribus qui inter hos existunt; nunc sine fœtore transit, nunc graveolet; nunc mitis, ut in initio plerumque, et diutiùs vigente morbo acrior, coloratior, fœtidior evadit. Patentes glandulæ tenuiores quoscunque separant humores, et eliminant; inter quos nutritivos, qui solidis vigorem, momentum fluidis suppeditâsse debebant. Hinc indies à viribus aliquid subtrahitur, perit membrorum virtus, labitur digestio, vitio magis indelebili fluida corrumpuntur, et per totum corporis œconomiam serpit labes, quâ nullâ (expertos afferentes audiavi) ex toto chronicorum agmine, sexui crudelior, curatu difficilior, aut effectibus exitiosior. Nam fatiscunt imprimis instrumenta ipsa, quorum ope cætera reparari debuerant, et morbi
sedes

sedes in viscere ponitur, cui omnium difficillimè fit medicina. Id quidem haud citò labefactatur, sed si semel infectum fuerit, vitium diu servat; "Quia pars est, inquit Forestus (a), quæ promptè recipit aliarum partium excre-
 "menta, tum ob situm inferiorem, tum ob multitudinem venarum eò per-
 "tingentium, tum etiam propter consuetam illam naturalem purgationem." His adde compagem solidam et vasculosam, remediis, quorum vires longo circuitu decoquuntur, antequam huc deferantur, haud facilè cedentem. Etiam post emendatam cruoris indolem, laxa glandularum fabrica pertinaciter obstat medelæ, atque ea medicamina, quæ harum mollitiei adversantur, constringunt quoque arteriolarum orificia, et molestiorem reddunt menstruationem. Laxitas nativa, victûs prava ratio, vita deses et luxuriosa hunc morbum plerumque inducunt, *Rariùs enim*, ut ab eodem Foresto observatum, *id pati visæ sunt agrestes mulieres*. Eadem quoque (b) fluxum uterinum suppressum sæpè præcedunt. Remedia ergo hisce morbis adhibenda sunt, quæ noxis, ex istiusmodi causis subortis, obviàm eant; neque vomitoria repetita omittenda sunt: præter enim effectus, qui hætenus indicantur, stomachum expurgandi, solida stimulandi, et sanguinem mirè atterendi, hunc tanto impetu versùs uterum propellunt, ut exempla prostent (c) in quibus sola vis ejusmodi mechanica tardatum fluxum repentè profuderit: atque, nisi δυσμενὴς sit ægra, vel incommodè ferat emetici actionem, haud minora in fluore albo quàm in plerisque chronicis expectanda sunt. Sæpiùs autem in hoc morbo motu levissimò fatiscunt vires, unde incommodi plus quam fructûs accipiunt. Hoc ergo in primis indagandum, priùsquàm porrigantur emetica ægris hujusmodi.

59. Nihil etenim ex omni parte perfectum atque beatum: sua secum trahunt commoda, et etiam incommoda vomitoria; nec minus verenda hæc, quàm appetenda ista, si fortè infelici auspice porrigantur. Infausti autem eventus remedii utilitatem haud minus prædicant quàm effectus optabiliores; insitam ejus vim demonstrant, efficaciam probant, dum porrigentis imperitiam vel temeritatem redarguunt, nec hominis excidii reum habendum est medicamen, sed manus quæ ineptè vel intempestivè ministrant. Quamvis autem, ex traditâ de emeticis doctrinâ, facilè perito patere possit, in quibus casibus utilia, in quibus nociva sint; haud tamen alienum est, ut brevi horum morborum enarratione claudatur dissertatio, in quibus vomitus imprimis vitandus.

1^{mo}, Nativa corporis structura apud nonnullos (d) scriptores causa existat, quo minus quibusdam propinentur emetica; quibus habitus macer et gracilis, collum extensus, pectus angustum, atque ad vomendum difficultas; quibus denique sanguinis sputum, animi deliquium, tussis molesta, familiaria fuere, ab emeticis liberati sunt: qui verò contrariâ temperie præditi sunt, horum

(a) Foresti observ. lib. 28. Obs. 21.

(b) Opera Doctoris Freind, p. 67, 80.

(c) Plateri obs. med. p. 191. Hildan. obs. cent. 3. obs. 58.

(d) Vide Fallopium de

Purgant. p. 81.

usum salutarem ex consulto medicorum sæpè sunt experti. In vehementiorum usu hæc sanè perpendenda sunt, ne forsan temeritatis vel incuriæ pœnas luamus; nec in leniori vomitu præcipiendo penitùs omittenda. Idiosyncrasia quædâm, experientiâ ægroto cognita, at à medico, nisi ab ipso didicerit, nunquam detegenda, hujus vel illius medicaminis usum vetaret, quod aliter ab ignaro porrectum multa mala est pariturum.

2^{do}, In morbis inflammatoriis, ubi sanguis adusto lentore inquinatur, immeabilis in arteriarum finibus sistitur, neque vi propellendus; ut in febribus acutis, inflammationibus topicis, pleuritide, phrenitide, hepatitide, aliisque ejusmodi; vires vitæ minuendæ potiùs quàm provehendæ: ergo peractâ accessione, urgente sævissimo dolore, tutum non erit emeticum.

3^{tio}, Neque, si multum lædatur visceris, sive partis alicujus actio, quæ tonica dicitur, sive æquilibrata potentia, quâ solida fluidis reniti deberet, minuatur, emetici fortioris vim mochlicam experiri licet, antequam ratio partis habita sit, an tantæ vehementiæ impetum commodè ferat, vel incommodi majoris fiat particeps. Sic v. g. in hydrope abdominali exsiccat emeticum, sed tumorem pro aliquo saltem tempore extendit.

4^{to}, In pulmones emeticorum vis sanè ingens est, quia nisu vomitorio tam subito per eos dimittitur sanguinis inassueta moles, quâ distenduntur vasa, comprimuntur vesiculæ, quibus fortiter reagens intra detentus aër, pressuram validam longè validiorem reddit; et, si dehiscencia priùs vasa sanguinem effuderint, vulnuscula certò certiùs ampliata hæmoptoe augebunt. Quin et in incipiente hæmoptoe, ab externâ causâ producta, dum sanguis adhuc blandus, nec sordidâ tabe contaminatus, vix ferè ad emeticum licet confugere, quo è vesiculis pulmonicis excutitur latens cruor, qui, stagnando corruptus, morbum, alioqui haud periculosissimum, intenderet. Pulmonicis igitur vix porrigenda sunt, nisi puris inundatio pulmones obruat, et lethum à suffocante materiâ, aliàs inevitabile, adfuturum sit.

5^{to}, Denique cavendum est ab horum usu in eis morbis, qui pro causis agnoscunt sanguinem multum crassum, pituitam valdè tenacem, copiosam, penè immobilem, aliamve quamcunque hujusmodi materiem, cerebrum et nervorum fontem gravantem, ut gravior apoplexiæ, paraplegiæ, hemiplegiæ species, veternus, carus et ejusmodi. Altius enim morbum plerumque figunt, vel in ipsâ forte operatione hominem interimunt. Vix ad eorum usu dehortatione opus est, licet aliqua symptomata ea necessaria esse alioquin innuerent, quando imminet adhuc hæmorrhagiæ metus, post vulnerata aut detruncata membra; vel denique quando per ampliores abscessus, aut aliud quodcunque ostium, apertus paratur exitus, per quem factò ingenti impetu emanet cum vitâ cruor.

A
MEDICAL INAUGURAL
DISSERTATION:

ON THE
USE OF EMETICS,
IN VARIOUS DISEASES.

By JOHN FOTHERGILL.

EDINBURGH,

M,DCC,XXXVI.

To the following celebrated Professors, his Preceptors; viz.

JOHN RUTHERFORD, Doctor of Medicine, and Professor of the Theory and Practice of Physic in the University of Edinburgh :

ANDREW ST. CLAIR, Physician to the King, Professor of the Theory and Practice of Physic in the same University :

ANDREW PLUMMER, Med. Doct. Professor of Medicine and Chemistry at the same Place :

ALEXANDER MONRO, R.S.S. Professor of Anatomy and Surgery in the same School of Physic :

AND ALSO

CHARLES ALSTON, Doctor of Medicine, Physician to the King, and Professor of Botany :

On Account of the many Favours conferred upon him,
THIS INAUGURAL SPECIMEN,
Which the laudable Custom of the University requires,
Is offered, with all due Submission and Esteem, by

JOHN FOTHERGILL, A. & R.

A TRANSLATION

A
T R A N S L A T I O N
OF THE PRECEDING
MEDICAL INAUGURAL DISSERTATION,
ON THE
Use of EMETICS in treating various DISEASES.

P R O Æ M I U M.

AS vigour of body, *acumen* of mind, present health, and a foundation for future, with the sweetness of a life unmolested by disease, depend in great measure on the state of that noble viscus the stomach; so physicians, both ancient and modern, have used every effort to preserve a function of so much utility to the body in a sound state. They knew, by experience, that if the stomach was healthy, less was to be feared from other parts; but this being diseased, other parts could not long remain sound. We daily observe that the gout, dropsy, scurvy, consumption, insania, the worst kinds of fevers (and other still worse diseases, if worse can be) seldom happen but the stomach is first affected; and if by chance they should arise from some other part, yet they become more severe in proportion as this great animal laboratory recedes from a healthy state. Hence therefore it appears, how much those who minister to the aid of nature in curing diseases, ought earnestly to attend to its safety. But the faults of the stomach itself, and of the matters it contains, as also the diseases which arise from hence, often require the aid of depletion; and most commonly there is no remedy more happily exhibited, either to take off the faults of the one, or eradicate the effects of the other, than evacuation by vomit. Hence emetics were so much celebrated among the ancients, that Hippocrates (*a*) even recommended them to the healthy, if they wished to remain so, and often advised to repeat them; although medicines of this class, common among the ancients, were extremely rough and unmanageable, and could not be given without disgust to the patient, and anxiety to the physician.

P A R T T H E F I R S T.

I. **VOMITING** is that action of the stomach, diaphragm, and abdominal muscles, by which the contents of the stomach, being squeezed as in a

(*a*) Hippocrat. de dieta, lib. 3. et alibi passim.

press, are thrown up by the mouth with great force; for by the contraction of these viscera, all the other viscera of the abdomen are pressed upwards; hence the pylorus is constricted, and the matters contained in the stomach being pressed by the muscular force of it (*a*), and the surrounding parts, into the upper orifice, they dilate it, and easily force their way through the contracted longitudinal fibres of the œsophagus.

2. Any powerful stimulus thrown into the stomach, and applied to its nerves, may excite this action, on account of the connection between the nerves of the stomach and those of the abdominal muscles and diaphragm.

3. Too great a quantity and bulk of things taken into the stomach, though they should have no other disagreeable stimulus, or at least but very little, may excite nausea, and then vomiting; such are cold water mixed with some aromatic substance, sweetmeats, and those dainties which, pleasing the palate, are greedily swallowed beyond the bounds of moderation.---Whatever irritates the nerves of the stomach, or any way greatly disturbs the equable motion of the nervous fluid, will excite vomiting; such as, a contusion, or vehement shaking of the head; the motion of a ship or carriage, to those not used to it; a strong imagination or recollection of some unpleasant nauseous thing: these, and the like, will sometimes affect the delicate with great disgust and vomiting.

4. But it is found that all substances, though endowed with a stimulus, do not with equal certainty produce their effects on the stomach and neighbouring parts, but sometimes promote an excretion by one, sometimes by another of the emunctories: antiquity therefore set apart certain substances for this purpose only, which they found almost constantly excited vomiting, and which experience had taught were peculiarly adapted above others to perform this office. These the Greeks called *Ἐμετικά*, EMETICA; the Latins VOMITORIA.

5. But the catalogue of these was defective among the ancients, though large; for they were acquainted with few emetics, which are not found to be either extremely rough and unfavourable, or altogether gentle and weak; at least if our catalogue of simples, marked with this title, be the same as theirs, as will appear to any one who examines their writings. The *Vera-trum*, or *White Hellebore*, was sometimes fatal, and the action of others doubtful. What wonder then if patients afflicted with some dangerous disease, preferred any other kind of remedy to a violent and cruel, or else too gentle, uncertain, and often an ineffectual emetic? Hence the patient, alarmed, detested the physician, and the physician hesitated to give the remedy which promised so much relief; from which both the one and the other suffered

(*a*) Wepfer de *Cicuta Aquatica*, cap. 15. hist. 1.

considerable inconvenience. And although Hippocrates understood the method of moderating the force of emetics, yet many others less skillful were often disappointed in their expectation. And chemistry, which has discovered so many famous remedies, hardly supplies us with any emetic which we can give with safety to the young and delicate. Sydenham also in his time lamented, that even then there was wanting an emetic, which was both safe, and at the same time *sufficiently efficacious*, such as practitioners now find in the celebrated Ipecacoanha root. But it is not my purpose to descend to particular emetics; it will be sufficient only to point out their classes according to their various powers.

6. It has been the custom of some to divide this order of evacuants into *gentle*, more *powerful*, and the *strongest* emetics; and not improperly; for those different simples used at present to excite vomiting may be conveniently ranged under this threefold order. No regard however must be had to their efficacy as discovered by the senses, that is of smelling and taste, but the distribution must be founded wholly on experience.

7. Emetics called *lenient* or gentle are of two kinds; 1. Such as by their bulk, or by a very slight irritation united to their bulk, offend the stomach: such are, water that is warm, viscid, sugared, mixed with honey, oil, or salt; fat broths, infusions of green tea, carduus benedictus, chamomile-flowers, and others of the like kind, drawn from different aromatic plants. 2. Of this order are, the small dose of a more powerful emetic, which possesses a stimulus so strong, that in a diminished dose it can provoke either a nausea, or an attempt to vomit, without urging its effects any farther. These are chiefly taken from the class of salts, which, being immediately dissolved in the gastric juices, and quickly dispersed every way, are applied to the nerves, and shortly thrown up, and being wholly dissolved, are washed off by the liquors drank, and their effects presently cease.----A thread passed down the œsophagus, an irritation of the gullet by a feather wet with oil, a nauseating idea, an unusual agitation of a ship, the shaking of a carriage drawn over a rough road, and lastly, the slighter passions of the mind, belong to this class. I do not deny but the causes just mentioned excite violent vomitings in some persons, but in the generality they do not, nor do their effects continue long and powerful.

8. The class of *stronger emetics* is formed out of those mentioned § 7, number 2d, the dose only or cause being increased; or it may be formed of those substances which have a more firm texture, and hence produce a more slow but more vehement effect: for, shooting out their vellicating particles, they insinuate themselves by degrees into the cells and foldings of the inner coat of the stomach, adhere to the nervous fibrillæ, and create and in-

crease uneasiness; and, the seat where they fix being covered, they cannot be thrown off by the redoubled efforts of vomiting, until their strength by repeated operation be weakened; hence arises a longer and more vehement vomiting. --- Many medicines which operate by vomiting, in frequent use in the present practice, are to be added to this class: of vegetables, for example, asarum, ipecacoanha, wild horse-radish, mustard-seed, squills with their various preparations and combinations: of metals, some salts, the products of chemistry, as the vitriol of steel and vitriolic salts; but those prepared from copper seem to merit a preference to all others, that is, the sal cupri and its tincture. To these must be added emetic tartar, and a diminished dose of some out of the class following:

9. We call those the *most powerful* emetics which the dogmatic and especially rational art avoids, on account of the cruel and vehement effects often experienced from them, and which constant observation has taught cannot be exhibited without imminent danger to the whole machine, and which are very seldom prescribed except by a bold mediceaster, or by a regular physician in some certain disease which requires the most powerful remedy; although indeed it is difficult to fix the exact limits between this and the preceding class. The vegetable kingdom affords many medicines of this kind, especially under the class of purgatives, the dose of which being increased, often produces cruel vomitings, and particularly if taken from the resins. Resinous substances are but little miscible with the animal fluids, and remaining undissolved, they accrete to the cavity of the stomach, and occasion the most violent pains, spasms, and excessive vomitings: this is evident from those tortures which the sick experience after taking the resin of jalap, or any other of the same kind, not rightly dissolved by triture, or made miscible with our fluids by some other method; whilst perhaps the natural humours are deprived of their native soap, and all is full of a watery phlegm. To these may be added the white hellebore, some species of the tithymali, tobacco, and many other plants called deleterious: the class may be increased also by the more acrid preparations of antimony, and those emetics prepared from mercury, together with many poisonous metals.

10. From the description hitherto given it is evident, 1. That vomiting cannot be excited without some stimulus (I mean any thing which can alter the motion of the vital fluid, or the action of the nerves) applied to some region of the nervous system. 2. That from the action of that upon the nerves, and of these upon the muscles, (§ 1) there necessarily happens an evacuation of the contents of the gastric region. 3. Lastly, That these can by no means happen without a strong compression of certain parts, a powerful concussion of others, and a great motion of the whole body. These always attend the
most

most gentle vomiting; they increase, as the power of the emetic is extended; and, the stimulus being increased, they may be carried even to the ruin of the structure of the parts.

11. The fore-mentioned conditions are always connected with vomiting, and most of those changes produced or expected from emetics, are entirely dependent upon them: being about, therefore, to enquire, what are the effects of these, arising from that threefold cause, I shall reply to these questions; viz. What is the use of an emetic, merely as a stimulant? or, merely as an evacuant? and lastly, How far can it affect the whole body by its mechanical force?

PART THE SECOND.

Of the Use of Emetics, derived from their Stimulus.

12. **A**NATOMY has not yet discovered any parts of the body which may properly be esteemed the objects of stimuli, except the nerves, which primarily suffer the effects of them, whatever they be, and propagate them to other parts, as appears by many experiments. For by experiments we learn, that not only the part to which the irritating substance is applied suffers a change, but also the effect is propagated to the origin, termination, and extremities of the spreading branches of the nerves, and also to the branches shooting off to the opposite region of the body, though from a different cause.

13. The principal effects are, a greater accession of the vital energy to the part affected, and a diminution of it in others; and, the equable moderate distribution of it being lost, the motion is both accelerated and confused. But these will all be different in degree, and more or less conspicuous, according as the vehemence and force of the exciting cause is different, and according to the disposition, number, and bigness of the nerves, and the thickness of the coats with which they are covered.

14. Most of the learned acknowledge, that this cause or energy, (§ 13) is a most subtle moveable liquid, endowed with all the common properties of a fluid, and derived from the brain, by a constant, gentle, placid motion, to every separate part of the body. Nor will any one deny this, who has attentively read over what Boerhaave (*a*) has written on this subject; or well considered what our celebrated professor of anatomy (*b*) has said upon it, in an order and method still more clear and beautiful.

15. Nor does it seem probable that the animal spirits are ever hurried along with such unbridled precipitate impetuosity, as to become the cause of so many

(*a*) Boerhaave's Inst. § 275, ad 292.

(*b*) Monro's Anatomical Treatise of the Nerves.

prodigious effects, or to form the essence of such a number of diseases: or that this disposition to motion, can arise from any excessive preternatural mobility; for the impetus of the spirits depends only on strong vital powers, whereas diseases of the nervous system most frequently occur in persons of an opposite habit and disposition of body, that is, in the relaxed and feeble, in whom the vital powers are weak. It is certainly extremely consonant to the laws of the animal œconomy, that this liquid should be moved sometimes quicker and sometimes slower: but there is so great a difference between the greatest velocity, and the greatest degree of inactivity, that we cannot easily allow this to be the only origin of diseases. The unequal distribution of the spirits may produce many tumultuous motions in the body, commonly attributed to a vitiated state of the nerves; and those phænomena which usually accompany diseases called nervous, are much more easily explained on this supposition; nor does the action of the muscles oppose our theory.

16. Any pungent acrid substance, applied to a nerve or its branches, produces this unequal distribution, so that spasms and convulsions arise; which may increase even to the extinction of life. Compression also made on the origin of any more remarkable nerve, produces the same effect; or even an obstructed egress of the spirits through their canals, from any cause whatever; by which the neighbouring tubes receive them in a fuller stream. The different proportion of solids and fluids peculiar to every age, as also the temperament peculiar to every person, very much increase or diminish this disposition; for the younger the person, and the softer and more relaxed his habit of body, the more readily, other circumstances equal, are the nerves irritated or compressed. Experience confirms this opinion: for the variolous contagion, even of the mildest kind, seldom attacks children richly fed, whose blood is full of spirits, and whose skin is endowed with remarkable softness, but dreadful contractions and spasms ensue: fits also not unfrequently supervene, altogether similar to a true epilepsy. Nor do hysteric fits, always happen from a poverty or want of the vital fluid, since they attack women of leisure, and dissolved in luxury, more than others to whom a harder fate is allotted.

17. These things thus premised, we may establish this general rule; that if a disease arise from a stimulus applied to some particular part, it is to be relieved by destroying the stimulating cause, or by applying another stimulus to the opposite part; for the equilibrium being thus restored, the disease will terminate.

18. The effects mentioned § 13, chiefly take place in the nerves and muscles. Other, however, and different effects arise in the neighbouring parts, such as pain, redness of the skin, and heat; an afflux of humours with tumor or swelling; a compression and obstruction of the vessels; a destruction of them,

suppuration, and gangrene. These happen to the internal as well as external parts of the body.

19. The remedy of which we now treat, possesses all the general virtues of stimuli hitherto mentioned. It has this, however, peculiar to itself, that we may commonly prescribe more certain limits to the action of emetics, than to any other internal stimulant whatever; for other internal stimuli sometimes exceed the bounds intended, and rage more fiercely than is proper, or else are too sluggish and inactive; whereas the force of an emetic may be increased or repressed almost at pleasure, if we only except the more vehement poisons.

20. From what has been said § 13 to 20, it appears what use an emetic is of, considered as a stimulus. It produces remarkable effects, among which the following are the most considerable. The slighter species of apoplexy, which arises from a cold, sluggish, pituitous matter, the cause being recent, and the body not very old, is often terminated by an emetic prudently exhibited; for hence the thick humours are concocted and thrown off, the small mouths of the nerves are opened, their passage is rendered free, the motion of the torpid blood being at the same time accelerated. It produces the like effects in a similar kind of palsy.

The epilepsy is a disease common in children, arising from some acrid matter corroding and vellicating the nerves. It often happens in adults from the same cause, and also from the stronger passions of the mind; from severe pain affecting the limbs; from a disordered motion of the spirits, such as is common to hypochondriac and hysterical persons. In these cases, if the fomes of the disease be moveable, it is thrown off by repeated vomiting.

The muscular membrane, which connects the cartilaginous segments of the trachea together, is formed of muscular contractile fibres, and obnoxious to spasm, especially in those in whom the nervous system is too irritable and moveable. These fibres are often instantly constricted, the cartilages are drawn together, and obstinately resist their usual elongation; the patient draws his breath quick, eagerly catches at the air, groans deeply; when at length fatigued with labour, and ready to sink under his anguish, he feels the spasm relieved, the breast is expanded, and he begins to live as it were anew.---What hinders, but that a dose of vitriolic salt, the salt of copper, or its tincture, speedily given, might calm these tumults, by irritating the stomach, exciting vomiting, and changing the course and track of the spirits? The experiment is certainly free from all danger.

When the blood begins to acquire that disposition which among the ancients was called *atra bilis*; when the natural functions fail through a want of spirits; when the spirits improperly pass only to some nerves, and these only exercise certain functions of body and mind; in this case a better remedy can scarcely

be exhibited than an emetic, moderated by certain cautions, as afterwards we shall have occasion to mention.

In spasmodic diseases, and many others of the nervous kind, which seem to arise from inactivity and languor in the chylopoietic system, emetics seem to be of real service. The *Chorea Viti*, a disease which certainly for obstinacy is second to few of this kind, even sometimes acknowledges the power of this remedy (*a*). And though emetics are not of use in these diseases merely by their stimulant power, yet they do much good by soliciting a greater afflux of spirits towards the organs, which suffer through a penury or want of them, and are hence obnoxious to disease.

Lastly, in most chronic diseases, when a thick pituitous matter spoils the comely habit, the solids, loaded with it, vibrate too slowly, and the fluids, now become viscid, are propelled through the vessels with greater difficulty, and, the general powers of the body being either lost or depraved, demonstrate either a want or too great a sluggishness of the vital fluid, as in a spontaneous gluten or acrimony; emetics, although they do not perform a cure merely as stimulants, yet they are to be preferred to all other remedies, especially if we take into the account the other effects of vomiting.

21. The other effect of the action mentioned § 18, is a quicker secretion of the thinner fluids: this the irritation or stimulus performs in two ways; first, it increases the motion of the blood in the larger vessels, by exciting them to a more frequent and stronger re-action on the fluids, and procuring an attenuation of them; and hence an aptness to secretion: secondly, it facilitates the preparation, and accelerates the passage of the humours in the organs of secretion themselves. Hence, from the same stimulus different secretions are increased, according as it is differently determined to this or that secretory organ.

PART THE THIRD.

Of the Use of Emetics as Evacuants.

22. **I**T seems not improper to divide the effects of an emetic, considered as an evacuant, into two kinds: the first is a depletion of the stomach, its contents being thrown up; the second, an increased excretion in other parts by the exertions of vomiting. But as this does not acknowledge vomiting as its proximate cause, it may more properly be placed among the mechanical effects of an emetic, and merits the appellation of an universal evacuation. The other particular is an expulsion of the matters lodged in the intestines,

(*a*) Cheyne's Essay on the Gout, p. 113, edit. 4.

or driven thither by the force of stimuli, or lastly, which have flowed back from the neighbouring parts into them; concerning which, a good method requires that we now speak.

23. Substances hurtful to the body, taken in by the mouth, or carried into the stomach from some other part, require the instant relief of an emetic; nor does the art of medicine know any more powerful aid effectually to extirpate the morbid effects of them, or to soften and meliorate some alarming symptoms produced by them, *than a vomit*.

24. Food and drink are justly reckoned among the *ingesta* mentioned paragraph 23; for the inevitable lot of life makes these necessary as long as we breathe the vital air: but the reasons I pass over. And the very different quality of the substances from which our food is prepared, often foreign to the nature of our body; the incautious use of some things, and excessive gluttony in others; lastly, an appetite for something forbidden or hurtful, a fault in the choice of meat and drink, and in the moderate quantity of them; have introduced innumerable complaints into the stomach. Hence the fruitful progeny of diseases, threatening cruel pains to the stomach itself, and hurtful to the extreme windings of the vessels; all of which the nature of my undertaking requires me to explain separately, but the narrow limits of time forbid it: and indeed my labour would be lost, since the task, compleatly finished, was not long ago published under your auspices, in an elegant dissertation (*a*) *de noxis ex cibi potusque usu et abusu oriundis*.

25. Too great a quantity of things taken into the stomach produces the diseases there described; these are usually relieved by depletion, which, if the patient have a disposition towards it, is to be made by vomiting; for by this method the offending matter is quickest carried off, and any part of the crude unconcocted aliment prevented from passing into the interior parts of the body.

The vitiated quality of food requires the same remedy, whilst it remains in the stomach, or is not carried far beyond it. Substances which have a greater native tenacity than what the powers of the body can overcome, retaining their own nature, corrupt, and pass into a kind of rosy phlegm. The case is the same if the expulsive faculty of the stomach be weakened or hindered, which, as practitioners testify, often happens in debilitated habits; for then, though the *ingesta* be not remarkably faulty either in quantity or quality, yet they spontaneously contract a vitiated quality, which arises from, and is increased by their delay in the stomach. Hence arise different species of acrimony; hence the spring of mucus, and a tough pituitous matter; which as they separately prevail, or are mixed together, aided by the temperament of the person in-

clined to this or that, they produce different, and sometimes truly alarming symptoms. So many kinds of depraved appetite; a total loss of it; a diminution or excessive increase of it; a vitiated, lessened, or total want of digestion; or a corruption of the undigested matter; often arise from these as their proximate causes.

It may easily be learned from the patient himself, what had been the predominant cause; and hence the quality of the matter will appear, and what remedies are to be used. Emetics evacuate the fomes of the complaint, and utterly eradicate the proximate cause. Yet we must not trust wholly to these; but by exhibiting strengthening remedies (a vomit being repeated at proper intervals) we destroy the disease from its lowest root.

26. If any acrid substance taken into the body either by chance or design, whether under the name of a medicine or a poison, threatens an injury to the structure of the parts, it is to be expelled as soon as possible, and especially by those passages where it may pass out of the body safely, without hurting the other parts. If only a small quantity has entered the intestinal tube, an emetic is to be greatly preferred to any other remedy, and often finishes the cure; nor must it be omitted, if a very small portion only continues to adhere to the stomach. The first class, mentioned section 7, affords an ample supply of remedies, by which many species of poisons are vanquished and expelled; and if there be such a thing as an universal antidote, it is perhaps warm water copiously drunk. In the choice of these remedies, however, there is need of prudence; expulsion does not always compleat our wishes, but the tender parts to which the poison or acrid matter is applied, are to be preserved from its injuries, the pains to be mitigated, and the raging cruelty of the poison appeased, even while we attempt a speedy ejection of it. And here also, the nature of the matter taken into the body being known, points out to the physician the means of procuring a timely relief to the unhappy sufferer. So alkaline salts diluted, are opposed to the acid poisons; saponaceous substances prepare the oily for mixture; water and watery bodies divide salts of all kinds, and destroy their powers; acrids take off the effects of those which have an oily glutinous viscosity; and so of the rest. The reader may consult what Boerhaave (a) has so excellently written on this subject, in his chapter on *antidotes*.

27. Nor does there only happen by emetics an evacuation of the ingesta, but also of all the humours carried into the stomach from other parts. These come either from the vessels of the stomach itself, or from those of the neighbouring viscera. And indeed the effects of pungent substances, mentioned § 21, are no where more clearly seen than in this viscus. This will appear, if we consider

(a) *Institutiones Medicæ*, § 1119.

the abundance of nerves dispersed through the coats of it, the number of glands and their office, and lastly the capacity of the vessels with which this viscus is furnished in proportion to its bulk. The softness of the coats gives an easy entrance to the nerves, and a spacious cavity exhibits a large superficies. Hence arises a more remarkable action, or a more plentiful excretion of the gastric liquor; which, as it is always large, if it be increased, must necessarily in some measure alter the whole body, by dispelling and drying up the ferous humours. Hence arise those excellent effects of emetics in diseases originating from a ferous vapid *colluvies*; as in catarrhs, the leucophlegmatia, diabetes, *fluor albus*, and others of this kind, of which we shall speak more fully in the following sections.

28. The liver and pancreas are situated near the stomach; and both of them sometimes discharge their secreted fluids into its cavity; which by their quantity or acrimony or both, may disorder chylification. The bile is frequently accused as guilty of producing diseases, the pancreatic juice more seldom. The ancients blamed the bile as the parent of the most cruel disorders; but many of the moderns deny this, and contend that the bile is not so frequently the cause of complaints as the ancients imagined: but if these had well understood what the ancients meant by bile, the wiser amongst them at least, would perhaps have thought their *dogmata* ought not to have been so rashly rejected; for not only the liquor supplied by the liver and gall-bladder came under the title of bile, but also a considerable part of the whole mass of blood, which the moderns commonly call *oil*; which, as we learn from chemistry, is as fruitful a source of diseases at present, as it was formerly under the celebrated name of *bilis flava*. But here we treat of the vesicular and hepatic bile, propelled upwards into the stomach, or of any other liquor brought thither, which is productive of like mischiefs as the bile itself; and such is the oily humour sometimes thrown up by vomiting; yellow, of an horrible bitterness, and taste scarce ever to be forgotten, resembling the bile, except only that the bile never blazes in the fire, but this, like pure oil, catches flame if it be thrown from the mouth on burning coals. It arises from oily meats, changed by the heat of the place into this most filthy disagreeable matter; aided also by too insatiable an appetite, as *Horace* intimates:

*Nempe inamarefcunt epulæ fine fine petitæ ;
Illuſique pedes vitioſum ferre recuſant
Corpus.* -----

The bile, and this yellow filth approaching to the nature of it, have alike this quality, that stagnation in a hot place renders them both more acrid and horrible; much in the manner of oil, which, exposed to a gentle continued heat, passes from a taste extremely bland, a smell not remarkable, and a yellowish colour, through various degrees of corruption, to the highest pitch of putridity, and

at length puts on the most violent acrimony to the taste, exhales the most rank mephitic smell, and presents to the eyes an ugly blackness. Both kinds of bile just mentioned, evidently undergo similar changes, are subject to the same laws, wherever collected in the body, until the uneasy guests promote their own expulsion. For otherwise the pitiable sufferer is tortured with dreadful cruel pains, gripes, nausea, and vomiting, which do not however terminate the pain, but continue to harass the patient even till death, especially if a hot temperament of the person, the heat of the sun, a rancid or fermenting food, have added fuel and flame to the disease. Here then is the cholera, the most direful of diseases: a fever is kindled, the viscera are inflamed, the strength fallen sinks under the load, and unless another Sydenham sits by the bed, and watches over the patient, a gangrene creeping on the viscera terminates the cruel torture and life together. But the matter which causes the disease is seated within the confines that sustain the force of an emetic; and the removal of the cause is indicated; why not then try an evacuation by emetics, or downward by purgatives, or by both, seeing it is yet lodged in the *primæ viæ*? It is not without cause that prudent physicians have rejected the use of these in so great a violence of the disease; for, whatever good effect the one or other may perform in other diseases, or in a milder degree of this, yet in so violent a *cholera* we must rather use restraints than stimuli, as will easily appear to any one who considers the case: for the mucus of the stomach and intestinal tube, as far as this acrid inflaming liquor has extended, being abraded, it is now applied to the naked nerves, and excites cruel pains, violent obstinate spasms, kindles burning fevers; and, the remaining mucus being constantly thrown up by the emetic, the cause of the disease is increased, and, by the continued efforts of vomiting, the dreadful effects are redoubled; for although the emetic have but the smallest degree of stimulus, yet this, whatever it be, adds strength to the enemy lodged within; stimulus is added to stimulus, and by the united efforts of these the patient perishes. But if the disease have not attained this degree of violence, if hope be not quite cut off, and if every thing persuades us to attempt the cure by emetics, then the point will turn on a skilful choice of the remedy: for neither bile, nor the oily matter, will unite with every kind of liquid; it refuses one, but follows and unites with another. That, therefore, which is most proper to promote a mixture must be used, regard being had to the known disposition of the disease, to which the remedy must always be opposed. Hence *saccharata*, *mellita*, *saponacea*, mixed with acescents, and all those mentioned section 7, number 1, which act rather by their bulk than stimulus, seem to promise success above others.

“Whenever bile is to be evacuated,” says Forestus (*a*), “after much

(*a*) Forest. Observ. lib. 18. obs. 3.

broth, or after a free “drinking of some liquid, vomiting is to be excited; “for bile, like oil, swims on the top of these, and on that account is more “easily evacuated; its acrimony also is moderated by a mixture with them.” A rule is certainly always to be observed in curing bilious vomiting; which being neglected, the worst mischiefs sometimes ensue. A cathartic, inconsiderately given, carries a part of the corrupted matter lower, and perhaps into the blood; hence again new miseries arise.

29. So great an overflow of pancreatic juice seldom occurs, as alone to be esteemed the cause of disease; but in the course of diseases, it may increase them: for as in health so large a secretion of it is made, as Brunnerus’ experiments shew, in diseases arising from a redundant lymph it may yet become more copious, and an evacuation of this by an emetic will diminish the ferous colluvies.

30. The accessions of fevers are commonly accompanied with nausea, vomiting, and other symptoms, which shew the stomach to be in a bad state: it ought, however, to be carefully distinguished, whether this sickness arises from the viscus itself, or from its contents; for an inflammation of the membranes of the stomach requires one kind of treatment, and the stomach loaded with corrupted fordes, and free from inflammation, another. It seems not to have been well understood by the more antient writers, that this viscus is equally obnoxious to inflammation as any other part whatever, until Frederick Hoffmann (*a*), in his Dissertations, observed that it happens more frequently than is commonly supposed. He lays down the diagnostic signs by which the physician may avoid the latent rocks on which the incautious easily strike. All these Boerhaave has explained in his usual manner, with large improvement, in his book *De cognoscendis et curandis morbis*, to which he has annexed a neat method of cure. From an ignorance of the true source of the commotions which so often happen in the stomach in the beginning of fevers, have arisen those contentions, so anxiously agitated among practitioners, concerning the use of emetics in treating these disorders. Some argue strenuously against their utility, adduce instances of their pernicious effects, and with a grave countenance forbid their use: others extol their salutary effects to the skies, and call in to their aid histories of successful cases not less credible than the former. Indeed it is easy to see that neither of them are much mistaken; for what excruciating tortures does a vomit excite in the stomach, when the vessels are turgid with thick blood; when the distended nerves suffer the most violent pains on the slightest collision against the *ingesta*; and when the coats of the stomach are affected with tumour, hardness, and pain, resembling a true phlegmon on the external surface of the body? What mischiefs then

(*a*) F. Hoff. Dissertat. decad. 1.

must an operation, joined with such violence, produce in such a situation of things? But the cause of pain and uneasiness oftener proceeds from the contents of the stomach, and then certainly an emetic produces commendable effects; and Hippocrates, Sydenham, and the most famous practitioners in the healing art, warrant their use. Reason also, supported by practice, speaks the same thing: “(a) If vomiting,” says Sydenham, “or an ineffectual propensity to it, has disturbed the patient, an emetic must by all means be prescribed.” For, as Hippocrates testifies, if any one chuses to exhibit much water to a person vomiting, ἐκλυσθήσεται διὰ τὸ ἐμέει σὺν τῷ ἐμέτῳ, ὡς τῷ μὲν διὰ τὸ ἐμέειν ὁ ἐμέλις παύεται; *the cause of the sickness will be washed off with the emetic, and thus by a vomit the vomiting will cease.* Nor is this the only advantage gained, but it will also be of great use both to the physician and patient, through the course of the disease, as we learn from Sydenham. “To exhibit a vomit, when there precedes a propensity to it, is so necessary, that, unless the humour be expelled, it will become the source of many diseases, a torment to the physician through the whole course of the cure, and throw the patient into great danger. Of these effects the chief and most common is a diarrhoea, which generally follows in the decline of a fever, as often as an emetic, when indicated, has been omitted. And although the propensity to vomit may have been over some time, yet the diarrhoea will cease as soon as an emetic is exhibited, provided the patient have strength to bear it.” Nor has this famous writer delineated the blackest state of things; for this putrid matter, by stagnating in the stomach, becomes more putrid, and, passing into the blood by the absorbents, rendered empty by heat and loss of fluids, it pollutes the vital fluid with malignant fordes, and renders the fever in all respects more severe; all which might have been prevented, if an emetic had been exhibited as soon as this propensity to vomit appeared. Concerning the choice of emetics, a caution must also here be repeated; viz. that we choose those which are most fitted to wash off the fordes, are most opposed to their nature, and change and correct them; and lastly, which may perform the office of diluents, if by chance (which may happen) any part of them should be absorbed into the blood. For these purposes, those mentioned section 7, class 1, are suitable, being rendered more efficacious by some out of § 8; for example, oxymel of squills with ipecacoanha root, or with a large draught of simple oxymel, or any other thin liquor, as the occasion may require.

31. In treating fevers, we ought not to forget a caution mentioned by most practical writers, that in all diseases where a plethora is present, or where the habit tends to one, and where the condition of the patient requires at the

(a) Sydenh. de morbis acutis, § 1. cap. 4.

same time an emetic, bleeding ought always to precede it, lest the strong effort of vomiting, and a sort of momentary tetanus, should rupture the distended vessels, or too great an impetus of the blood be determined to those parts where there is least resistance. For, the vessels being ruptured, pour out their fluids, and the patient immediately dies, either of an apoplexy or an hæmoptoe; or he perishes at length of an incurable phthisis, or from an affection of the lungs; or is cut off by the morbid affections of some other viscera. That vomiting seems to be of most use, which is excited immediately after bleeding; for the inconveniences of a plethora are then more certainly avoided, and the salutary effects of the emetic are more certainly obtained, especially if the disease be a fever, which requires the help of both; for the vessels being emptied of part of their contents by bleeding, sometimes suddenly become turgid again, either by the rarefaction of the blood, or its bulk being increased by the quantity of liquids drank on account of the great thirst; hence the same inconveniences arise as before: nor can we exhibit an emetic before bleeding has been repeated, though it might have been given with safety a few hours after the first evacuation.

32. The operation of emetics in intermittent fevers seems something wonderful, as they sometimes exhibit effects not less difficult of explanation than the nature of the disease itself; for although the extremities of the sanguiferous vessels, or perhaps sometimes the nerves, are principally affected, yet an evacuation of the matters collected in the intestines is of great moment. There are instances of persons cured by a vomit only, whether spontaneous or excited by art; whilst bleeding, except in plethoric habits, generally does harm, and renders the disease more difficult of cure. But emetics, prudently repeated, carry off by degrees the corrupted fomes of the disease from the *primæ viæ*, accelerate the motion of the blood, and lastly either take off the disorder, or make way for the safe exhibition of a febrifuge; which otherwise would fix the fomes of the disease more obstinately, and, an evacuation being excited upwards or downwards, it would lose its effects.

33. Nature anxiously attempts, by the passages opened by chance or art, to throw off the prepared febrile matter, and again restore the body to health. Sometimes she attempts it by the emunctories appropriated to certain excretions, as by spitting, vomiting, alvine fæces, sweat, or urine: at other times by passages less proper, as when tumours arise on the external surface, and the like. It is a rule well known to all, that (a) *Quæ educere oportet, quo maximè vergunt, educito per loca convenientia*: “Whatever is to be evacuated, ought to be expelled by those natural emunctories to which it principally tends.” If it appears that the crisis of a fever will happen by spitting, the

(a) Hipp. Aphor. § 1. Aphor. 21.

aiding hand of art ought to promote that secretion. The like rule must be observed in vomiting, if we know it is critical, or excited by some matter offensive to nature; but if it arise from inflammation of the stomach, and cannot be relieved by a vomit, it ought to be stopped. The case is the same if the matter attempts an egress by any other emunctory; for the longer any concocted matter, fit for expulsion, is retained in the body, the greater inconveniences it produces. The purulent fever affords us a melancholy but just example of this; when, in those affected with the small-pox, the secondary fever, so called, supervenes from an absorption of purulent matter: nor is the critical putrescent matter of any other fever less malignant, but requires instant evacuation. There are remedies at hand proper to promote this or that evacuation, according as nature points out the way; only we must observe, that as the concocted matter of the disease, which passes off through the pores of the skin, is so loaded with contaminating particles, that it often affects the healthy; so a similar matter is deposited in the cavities of the stomach and intestines, which is happily to be carried off sometimes by a cathartic, sometimes by an emetic; left, perhaps, *being left after the crisis of a disease, it should occasion a return of it (a)*. Celsus also advises, that it should be carried off by vomit after a fever (*b*).

34. We may add a great number of diseases to those already mentioned, which receive singular help from this remedy. There are few chronic disorders which do not require the help of emetics; but a particular enumeration of them would lead me too far. Most diseases common to children, a ricketty or strumous disposition, the saburra, fomes and nest of worms, and the like, are often successfully cured by emetics. The gout, dropsy, a milder degree of scurvy, common to adults, sometimes are relieved by vomiting: the chlorosis, and fluor albus, in the weaker sex, often require this help. A catarrh, diarrhoea, dysentery, cæliac passion, and every disease arising from a ferous colluvies, are relieved by a vomit. It is scarce necessary to mention how much emetics, exhibited at proper intervals, contribute to promote long life. There are some persons at present, who, though not given to gluttony, nor wanting the means of carrying off the dregs of a full meal, yet, mindful of the advice of the antients, esteem vomiting of so much consequence, that two or three times a month they empty the stomach of its fordes by a vomit. He who studies the most exact rule of living, often necessarily commits some error in diet. Hence sooner or later the fault affects the stomach, and there first lays the foundation of future disease. Sickness, or a troublesome nausea, is sometimes felt, a loss of appetite, and various other symptoms appear, according to the different nature of the cause, and the manner in

(a) Aphor. Hipp. § 2. Aph. 12.

(b) Celsi medicina, lib. 3. cap. 7.

which

which the stomach is affected. Many betake themselves immediately to some celebrated tincture, drawn with spirits from bitter aromatic plants; in this they confide and indulge themselves, till, habituated to them, they at length die with their stomach and bowels parched and worn out. We know no remedy which seems to promise so many and great advantages to sedentary persons, liable to crudities in the *primæ viæ* from a sedentary life, as an emetic. It carries off the disease when produced; it destroys its proximate cause, by washing off the acrimony which most commonly constitutes it. To the studious, therefore; to those whose state of body forbids much exercise; and lastly, to persons who sit much in their business, or on any other account are exposed to similar diseases, I would recommend the frequent use of emetics.

PART THE LAST.

Of the Use of Emetics, arising from their mechanical Force.

35. **T**HE third question remains yet to be explained; viz. What are the mechanical effects and uses of emetics in removing diseases? We shall therefore next enquire into the parts affected, what change they undergo, what is hence produced in other parts, and what happens in the whole body.

36. The abdominal muscles being contracted, (§ 1) and made rigid, almost like the bony column which defends the posterior parts, not moveable by any force of this kind; and the diaphragm being strongly forced downward, to which are opposed the immoveable bones of the pelvis, the cavity of the lower belly is every way diminished, and the whole contents of it powerfully squeezed together. Nor is there any part of the abdominal region free from this forcible pressure, the great force of which is evident from the vehemence with which the contents are thrown upward; for certain experiments incline us to believe that there is no contractile power in the stomach sufficient to throw up its contents, till assisted by the strong compression of the parts mentioned, which compleats the evacuation; and the soft viscera lying under these parts, are affected with the violence of their action, whence great and useful effects may be expected.

37. But before we enter into a disquisition of these effects, it will not be improper to take a view of the actions of the abdominal viscera, according to the following general division of them; that, their office being known, we may more easily know the morbid changes which take place in them, and that it may more clearly appear in how many ways this vehement mechanical alternate compression of these viscera may be of use.

38. Their principal offices are, 1. To prepare from the ingesta a matter fit for nourishing the body: 2. To separate what is proper for nourishment from

from that which is improper: 3. A farther preparation of the same matter, when changed into blood, by powers situated beyond the abdomen: 4. To secrete liquids extremely useful to the purposes of life: 5 and lastly, To separate and throw off from the nourished parts, the residue of solids and fluids now become useless. Thus; 1. The stomach and small intestines prepare the chyle. 2. The lacteals and absorbents separate the more fluid from the grosser parts. 3. The blood in the large meseraic arteries, and others dispersed through the abdominal viscera, suffers a continual concussion, reciprocal compression and propulsion; all which are more especially observable in the spleen. 4. The blood, thus prepared, flows constantly through passages appointed for it; viz. through the liver, pancreas, and the numerous glands every where dispersed through the lower belly; in this course the quality and form of it are changed, according to the laws appropriated to the nature of each particular organ. 5. The grosser filaments being corrupted, are pressed forward and timely excreted: the thin and watery part of the blood, loaded with salts and oil, unfit for nutrition, passes off by the kidneys, and forms the urine. All these offices are promoted at the same time, and by the same means; that is, an alternate constant agitation, the necessary consequence of respiration; for if this motion and gentle concussion of the abdomen should cease, there would be no force sufficient to propel the fluids through such narrow winding canals, especially in the lower part of the belly, where they sometimes lie under a considerable pressure: the force of the heart also would be unequal to the labour imposed upon it; the great power of absorption would cease, though too great to be limited by any prescribed bounds; for the viscera, not being agitated by the motion of other parts, a spontaneous viscosity would arise in the fluids, and gradually obstruct the canals, or form so many impediments in the small tubes, that their progress would presently cease, either in some or all the viscera, according as these mischiefs had more or less extended themselves. And, indeed, the ætiology of diseases shews, that many complaints of the abdomen arise from one or other of these causes, or from both concurring together. An attenuating remedy, therefore, which accelerates the motion of the parts, is more especially indicated.

39. By the effort of vomiting, the superficies of the viscera are strongly pressed together, their bulk is diminished, and the fluids circulating through them are pressed together, rubbed one against another, and against the sides of the vessels: they are also propelled forward, and driven out where a passage opens for them. Hence secretion and expulsion is quicker; the thick matter is resolved and prepared for ejection; all the actions (§ 37) rise to maturity, vigour appears in the organs, and, all obstacles being removed, they act with ease; on which both the quantity and quality of those secretions, which may be esteemed the preservatives of health, immediately depend.

40. The

40. The inner cavity of the stomach is extremely full of glands and exhalant vessels, from the villous flexible mouths of which a liquor is secreted, by which it is lubricated and preserved moist, the nerves are defended from the injuries of the food, and chylication is promoted. But the mucous nature of this liquor necessarily diminishes and retards its secretion, loads the glands with a viscid matter, and gradually subverts their office, especially if its motion be slow, which is commonly the case with a mucous fluid. Hence arises a deficiency of the gastric fluor, crudity, and indigestion, an appetite diminished or too much increased, heat in the stomach, sometimes nausea, and thirst. The same mischiefs sometimes occur from dried crufted fordes lining the cavity of the belly, as after an acute continued fever, when the attendants, or perhaps the too cruel physician, have unjustly thwarted nature, craving a supply of her diminished lymph. Diluents are not sufficient in these cases, they even relax the vessels more; hence the languid fluids, by their delay, presently thicken, not easily again to be resolved. An emetic, which produces the effects mentioned § 29, is of great service in these complaints; for the whole abdomen should be considered in this respect as somewhat similar to the lungs. Indeed, every viscus has some office peculiar to itself; but the motion by which a constant change of fluids is promoted and takes place in every one, arises from some other part; so that a mixture, compression, attrition, solution, and the like, take place in the fluids here, just as happens in the thoracic viscera. The same cause produces the same effect, though in different organs: a vomit, therefore, performs speedily what nature by slow steps attempts in vain to obtain.

41. Costiveness, the usual companion of a sedentary inactive life, generally arises from a deficiency of the mucus of the intestines, and from a want of the gastric juice, supplied from the glands and vessels, (§ 40). The gastric juice ought to render the fæces soft and moveable, and the mucus procure them an easy descent. The cause of this defect is the same as mentioned above, (§ 40) and the cure must be attempted by the same means, only with the additional help of exercise and motion. I do not suppose that this complaint always arises from this cause; but if it has arisen from any other, it is increased by this, and the person, not regular before, becomes at length costive. Gentle purgatives, indeed, carry off the fæces, remove the present inconveniences, and moderate the uneasiness of this situation: but if the patient indulge himself too much, as often as costive, in remedies which seem to give so much relief, he will scarcely avoid other inconveniences from this quarter; for, all the humidity being drawn off with the fæces, the belly will become still more costive, the viscera will be obstructed and stuffed with the remaining thick matter. On two accounts, therefore, (§ 34, 40) an emetic recommends itself

to persons of a sedentary inactive life; that is, as it expels the crude matters, and by accelerating motion attenuates the viscid, and thus performs the office of an excellent diluent.

42. A complaint of an opposite nature sometimes afflicts the stomach and intestines; that is, a kind of deluge of a watery liquid, in which the *ilia* being immersed, become tired, lose their heat, and the parts destined to perform the vital function become unequal to the task. A weight and langour about the precordia, frequent spitting, loss of appetite, belching up a watery matter, more especially troublesome in the morning, great nausea, but suddenly going off, frequent liquid stools without pain, with universal debility, inactivity, and paleness, are the signs of this watery inundation, and at the same time point out the serous dissolved state of the blood. The symptoms now mentioned pretty clearly indicate the method of cure. An evacuation of the redundant fluid, and strength added to the small vessels, are first necessary; hence will follow a firmer crasis of the blood, and a change of its pituitous diathesis; and for these purposes emetics are especially useful. Hence we see why a vomit checks a diarrhœa, and also removes costiveness, according to the maxim (a) of Hippocrates, repeated and approved by Celsus.

43. The structure and office of the pancreas, being similar to that of the salival glands, render it liable to similar complaints; namely, to have the secretion of its fluid either diminished or too much increased. In both cases an emetic is useful; it removes the obstruction, if not too obstinate, and, by compressing the viscus, carries off the superabundant fluid.

44. A little below the pancreas, the aliments, now rendered liquid, are absorbed by the mouths of the lacteals, and immediately carried to the meseraic glands. The slow motion of these, and the smallness and winding structure of the vessels, promote a separation of the thin from the thicker parts, but render the passage of the chyle to the blood difficult, especially in delicate habits, and those who feed on bad food, or have the structure of these parts badly formed. Children, from inexperience, weakness of their constitution, and strong inclination to gross improper food, are more subject, than persons of more advanced age, to infarctions and swellings of the meseraic glands. Similar causes will produce similar diseases in adults, but they are not so common, for we see in reality that children are most subject to these kinds of obstructions. At this age there is scarcely any thing more pleasing to the palate than raw unripe fruit; leguminous, farinaceous, viscid substances, and other kinds of eatables the most viscid, are then especially sought after and used, without any attention to the effects this species of luxurious

(a) Celsi medicina, lib. i. cap. 3.

appetite may produce. Hence a tough matter is formed in the stomach, and at length passes into a viscid liquor, though hardly changed except in appearance: passing from the stomach, it meets with an inactive bile, is diluted with it, but not dissolved. The more fluid part enters the lacteals, but on account of its tenacity stops there: the cause is every day renewed, the obstruction grows and increases, the tumor becomes harder, presses on the neighbouring parts, and blocks up the passage to the veins; hence an atrophy is produced, and the miserable sufferer daily pines away: or, if the disease does not proceed so far, nor wholly obstruct the glands, yet an imperfect chyle is mixed with the blood, contaminates it, and, the glands being every where affected, especially those about the face and neck, the secretions made from it are vitiated; the face becomes swelled and distorted, and shews either a true struma or a disposition verging towards it. This is, doubtless, a dark face of things, and difficult for the physician: the solids have lost their strength, the fluids are too viscid, and the parts which ought to change the aliments into the nature of the body, being depraved, leave concoction imperfect. The glands also being obstructed, the blood is precluded all means of acquiring new vigour; and the glands, once clogged with viscid matter, with difficulty perform their office and evacuate their contents. It appears, therefore, that every kind of help must be used to remove so obstinate a disease. A resolution of the tumours is first to be attempted, that, as far as can be done by food and medicine, we may nourish the body, cure the depraved, and strengthen the weak parts. Then the texture of the parts in which the disease is seated must be so strengthened as to concoct and expel the offending fluids, regard being still had to the manner of living. They who know the situation of the mesentery, will easily conceive with what violence it will be pressed on every side, by the efforts of vomiting; and what effects will follow on glands newly obstructed, on the neighbouring parts loaded with a foul matter, (§ 39) on the pancreas abounding with the like, (§ 43) and lastly, on the stomach, by throwing up the acrid humours (§ 34) hurtful to it, and occasionally supplying new strength to the disease. But we ought carefully to examine if the viscera are sound, corrupted by no ulcer, and wholly free from any putrescent waste; for otherwise an imprudent emetic would be very hurtful. The same also is true, if from laxity alone a rupture be feared; for in this case mechanical force must be sparingly applied. Nothing else forbids the use of an emetic; nor will our expectations of great good from it be disappointed, provided the obstructing matter be moveable, and the strength of the patient sufficient to bear repeated operations.

45. Of all the abdominal viscera, the spleen is of the softest most delicate structure, and the fleshy muscular columns seem rather adapted to

support its flexible fabric, than to propel the large quantity of blood it receives : nor is the impetus of the heart, being diminished in this viscus by the winding structure of the vessels, nor the strength of the artery, sufficient for this purpose ; but they are assisted by a constant gentle agitation, which the spleen receives from its connection with the diaphragm, its nearness to the abdominal muscles, and its pendulous situation : and from these causes chiefly the progress of the blood through the vessels of the spleen is thought to be preserved. If therefore the usual motion stop, or be for some time diminished, as happens to those of an inactive life, the blood is retarded in the small cells and cavities, becomes thicker, and is in the greatest danger of producing an obstruction, from a want of the necessary mobility and usual impetus, the causes of a free easy passage to the blood. The mode of giving relief must be varied, according to the stage of the disease and the different causes that may have produced it ; for one method of cure is not proper for every person affected with complaints of the spleen. If the infarction be recent, and the hardness great ; if it has arisen from omission of exercise, or too great an application of mind to some object ; if there be a sense of painful distension without much matter collected, and the habit of body in other respects good ; mechanical compression may be applied to advantage : but if the hardness seems to indicate a schirrus, or if the spleen has been inflamed by a preceding fever, and converted into a bag of pus, then we must have recourse to other remedies, lest by irritating the schirrus we change it into a cancer ; or, the membranes confining the pus being ruptured, the abdomen should be overflowed with a purulent matter, or the liver affected with a putrid waste.

46. Among the diseases which affect the liver, the unsightly jaundice most frequently discovers itself to view. Medical writers have assigned many proximate causes of this complaint. But the author of an elegant little tract on the jaundice, inserted in the Medical Essays † has saved me the trouble of reciting them separately, or discussing them. We may allow with this author, who chose to conceal his name, that the most frequent causes are, stones generated in the vesicula fellea, and lodged in the duct, too narrow to give them passage : for, besides the histories adduced by this author, his other reasonings in the following volume ‡ abundantly confirm it. Now supposing this to be the case, which seems highly probable, medicines which act by mechanical force, are to be preferred to all others. Walking, riding, and other motions which considerably agitate the body, are of this class ; by the help of which the gall-stone is pushed forward, and the obstructed bile issues forth. These, doubtless, greatly promote the descent of the bile ; but sometimes they fail, the disease requiring a stronger propelling cause ; and if an

† Vol. i. art. 33.

‡ Vol. ii. art. 28.

emetic ever be useful from its mechanic force, and if the seat of disease, and the nature of its cause, ever favour its salutary effects, it is certainly here: nor are we often disappointed in our expectations; for, a large quantity of liquor being drank, the stomach, like a bag turgid with a warm fluid, is applied almost upon the constricted duct, and relaxes it; whilst the bile lodged behind is urged forward by the action of vomiting, (§ 36.) Or if we suppose the cause seated in some other part, for example, in the first origin of the biliary ducts, where they arise from the extremities of the *vena portarum*, or elsewhere, and that the obstructing cause be a thick purulent matter, or small stones lodging fast; in these cases an emetic will be of considerable service, if the disease can be remedied by the help of art.

47. Whenever the kidneys are affected with pain, nature, by drawing the stomach into consent, and exciting motions or uneasiness in it, from a common consent of nerves between these two viscera, seems to point out the way by which any thing that would be hurtful to the kidneys, by a longer delay, may be dislodged from them. 1. A gypseous, mucous, purulent matter, either produced here or brought by metastasis, being too thick to pass the fine vessels of the kidneys, or having passed, lodges too long in the renal sinus, daily increases in bulk, presses on the neighbouring parts, or rubs against them, and causes the most excruciating torments. A stone being in this case often formed, is forced into the ureter, too narrow to receive so large a substance, the muscular sensible coats of which being injured by the rough superficies of the stone, contract themselves closer, and strongly oppose its farther progress, the pains at the same time becoming almost too great to be endured. Venesection being first performed, the stricture is to be removed by topics and universal remedies; after which, mechanical force performs what art can do. Nor is this the only effect of a vomit in this disease; but the liquor drank performs the office of a fomentation, and, together with a clyster, makes a kind of internal bath, which, by its watery halitus, relaxes the strictures, and, by increasing the volume of the contents of the lower belly, it acts with greater force on the kidneys and ureters.

2. A morbid flaccidity of the kidneys from weakness of the vessels, sometimes permits such a flux of watery liquor to pass off, as resembles a species of the disease called by the Greeks a diabetes. There frequently is passed a considerable quantity of thin watery urine, almost without colour, taste, or smell, attended with a troublesome thirst, prostration of strength, great loss of fluids, and a waste of the solids. But a worse species of the disease happens, when there is an efflux of a whitish, chylous, sweetish liquor, which ancient practice supposed peculiar to this disease, and which modern practice has confirmed; for though the disease be very uncommon, yet it is met with some-
times;

times; and whether it may have arisen from relaxed vessels of the kidneys, or a dissolved state of the fluids, or from any other cause, the curative indications, as Sydenham observes (*a*), must be wholly directed to strengthen and invigorate the blood, and to restrain the preternatural flux of urine; and we may add, to take away the morbid laxity of the vessels of the kidneys.

What has been said above, (§ 42) concerning the power of emetics in evacuating fluids, sufficiently evinces how much it answers to the two first indications. The situation of the kidneys, and their nearness to the bones, shew what mechanical effects may take place in them, and how strongly the efforts of vomiting may evacuate the redundant humour from their substance. It certainly expels the lymph, which in some measure macerates the kidneys, and thus restores the lost tone to the fibres.

48. It is hardly necessary to observe how exceedingly the muscles, affected with a strong spasm, compress the uterus, tumid with its burden, (§ 36.) The time of delivery therefore approaching, every thing which adds a stimulus to them must be carefully avoided: but for the same reason we see how much may be expected from this source, if the natural strength should be deficient, or by repeated efforts and straining should be so far reduced as to be unable to expel the infant, though it be well situated, of a proper size, and the parts also of a natural structure; in this case an emetic, which acts quickly and powerfully and may soon be restrained, often happily finishes the business, without raising any disturbance, heat, or fever in the system; which usually follow the use of aromatics, especially when joined with ardent spirits and other things of the like kind, which old women, according to custom, exhibit with a liberal hand, and generally to the great detriment of the patient.

There are other affections of the uterus which may be relieved by this remedy; but although they have fixed their ultimate seat in this viscus, yet they spread disorder through the whole body, and are to be considered as causes of a general effect: the fomes therefore, are to be removed from the general habit, before the uterus can return to its former healthy state. How far an emetic may be suited to this intention of cure, will be shewn hereafter.

Having thus considered the faults of the principal viscera separately, at least those which admit of relief from mechanical remedies, we must now consider the effects which respect the whole body, and enquire into the general changes produced by so great an operation.

49. Besides the large trunks of vessels which pass through the belly, and, bringing the blood from the extremities, carry it to various viscera, and, being formed into one, constitute the origin of the *vena portatarum*; there are

(*a*) Sydenh. Epist. Resp. oper. p. 272.

Still thousands of their branches, which creep through the viscera, and, making their way by various turnings, form many beautiful plexus of vessels, through which the natural fluids are constantly propelled. By vomiting, the situation, magnitude, and figure of the vessels, are every moment changed, so that an action arises altogether similar to the action of the lungs. But if we advert to the number of the abdominal vessels, and to the force applied to them and their contents by the efforts of vomiting, we shall see that this action far exceeds the powers and action of the lungs, and at this very time also, they act much more strongly than usual. We may justly conclude, therefore, that every part of sanguification is exceedingly promoted by it; that is, a union, densation, attrition, solution, and mixture of the fluids with the blood, is excellently promoted. These effects are also assisted by the increased velocity of the blood; for the arteries are compressed, as well those which go to the belly, as those dispersed to the limbs. Most of the muscles grow rigid with a slighter kind of tetanus in the very act of vomiting, as will easily appear to any one looking on a person in this situation. The muscles of the breast and shoulders support and fix the ribs; the arms stretched out, support the body, by which the muscles of the back are assisted in keeping the body bent forward in a convenient posture; the legs become stiff, and the patient, like an immovable statue, waits with open mouth the attack of sickness and retching. The blood-vessels, therefore, which accompany the muscles, are equally subject to this pressure as those of the abdomen, and are affected with it in like manner: the diameter of the arteries is diminished, and the compressed fluid rushes out where a passage opens for it; the column urging on behind, prohibits a reflux, it must necessarily therefore proceed forward, and sooner reaches the veins. The coats of these are less rigid and more easily yield to external force; the same effect therefore takes place here, namely, the blood is compressed and pushed forward: the frequent valves forbid its return; it urges on its way therefore with greater velocity, and reaches the heart in a fuller stream; but, driven from hence with frequent repeated strokes, it hastens on to perform the usual rounds. From these things we clearly learn, 1. That sanguification is made better: 2. That the secretions are increased: 3. That the solids acquire new strength: 4. Lastly, That the momentum of the blood is increased, and, impediments being removed, the circulation becomes more free. But from these principles it will easily appear, what diseases τῆς μοχλείας δέοντες, *require mechanical motion* as a remedy, and why so many and such great effects are produced by vomiting, both on the fluids and solids. It will not, however, be foreign to our purpose, to shew their use in a few of these kinds of diseases.

50. The winter being past, the solids, before stiffened by the piercing frost, are again relaxed; but the fluids, propelled with less force by the enervated vessels,

vessels, grow thick by the vernal heat, and on any slight occasion stagnate in the extreme vessels, the solids failing of their usual strength: the humidity of the air accumulates the fordes, and the weak body, loaded with fæces, becomes liable to many disorders. Nature, perhaps, brings on a benign intermittent, which might soon shake off the troublesome load, and restore the body to health and vigour, if left to itself, and not disturbed in its course. But the complaining patient is urgent; he abuses the physician with hard speeches, and despising his advice, perhaps procures from some old woman an untimely relief, often accompanied with a thousand mischiefs. An emetic second the attempts of nature; and, if it does not radically extirpate the complaint, yet it expedites a safe way to health, (§ 32) and if repeated is useful. An autumnal intermittent seems no less to require the help of an emetic, as well to evacuate the foulness of the *prima via*, as to correct the disorders which have a deeper root in the system.

§ 51. Nearly allied to this, is a slow continued fever, greater in degree, arising perhaps from the same causes, and sometimes raging about the same time: the morbid matter seems more immovable, and which can by no means be subdued or expelled by the slow work of nature. Hence there is no remission; yet the disease is not so violent, nor the heat extreme. Venesection evacuates, with the blood, the strength also, which in this species of fever is already too low. A gentle laxative is of little use and a stronger purgative debilitates. 'Tis the business of the physician to favour and promote what nature has begun. We must therefore support the fever, that it may finish its attempts (otherwise too weak and useless) and concoct the crude, and expel the concocted matter, that it may not be hurtful to the body. "If there be coldness and torpor," says Celsus (a), "and restlessness, it will not be improper to give in the fever three or four cups of the *mulsum* (b), or diluted wine mixed with the food; for by this means the fever is increased, a greater heat arises, and removes the forementioned symptoms, gives hope of a remission, and in that remission of a cure." But emetics perform all this. There is a strong force accelerating the motion of the spirits, (§ 18, 19); the fordes lodged in the bowels are evacuated, (§ 30); if the abdominal viscera are clogged with viscid matter, it is corrected and subdued, (§ 39); and lastly, the motion of the blood is quickened, and the thin secretions, (§ 49, n. 2, 3, 4,) are increased, especially those by the skin and surface of the body. Perhaps there is no method of promoting sweat, more efficacious or useful, than after an emetic has been exhibited; for not only a copious sweat is excited during the operation, but the attenuated fluids

(a) Cels. med. lib. 3. cap. 9.

(b) Water and honey boiled together.

are propelled so forcibly to the surface of the body, (§ 49), that, the obstructions being removed which block the cutaneous orifices, the humours determined hither rush out in a full stream. And here opiates are of use, which practitioners most judiciously advise after an emetic. Vomiting likewise cleanses the squalid foulness of the *primæ viæ*, and prevents the viscera from being injured when an hydrogogue is administered, and the fomes dispersed through the body.

52. The same doctrine points out the great use of an emetic in a thin acrid catarrh, in the humoral asthma, and other disorders of the like kind, arising from catching cold; when the matter of perspiration is retained, and so far loads the vessels with an inactive fluid, that all the functions suffer by it; when the senses grow dull with a stupid heaviness, and one would almost say that the body is literally heavier than usual; and lastly, when the distended vessels become painful, and the sensible parts are hurt; when these, and other like symptoms appear, a remedy must be exhibited, which may open the pores, expel the superfluous humours, and restore the body to its usual activity. An emetic is of great use for these purposes, in whatever part of the body the complaint, arising from these causes, may be situated. If we suppose that the glands, and other vessels about the fauces and neck, so much abound with a watery humour, that there are signs of an approaching defluxion, mechanical force will be of use; for the face growing red and swelling, the eyes sparkling and filled with tears, the nostrils moistened with their usual fluid, and the glands of the mouth and fauces pouring out a rivulet of saliva and mucus; all which constantly accompany the efforts of vomiting; clearly demonstrate with what force the blood makes towards these passages, and the greatness of the attack on the obstructed vessels. For as the bony canals do not yield, and as the great arch and obliquity of ascent of the vertebral and carotid canals greatly break the force of the blood in its approach to the brain; so the tender flexible texture of it is in less danger from an emetic, the impetus being mostly determined outward, the increased force inwardly being but small. Hence partly, and from its stimulant and evacuating virtue, the reason will appear why a vomit is of so much use in a vertigo, hemicrania, and other like diseases; why it has sometimes been so useful in the epilepsy of old people, as writers of observation acknowledge: "I have known," says Hoffmann (a) "an inveterate epilepsy, which had afflicted the patient twenty years, cured by the use of emetics and specific anti-epileptics, taken from the animal kingdom." Nor am I unacquainted with similar histories; but the prescribed limits of my work forbid the relation of them.

(a) Hoff. Dissert. decad. 1. p. 204.

53. The same reason renders it less necessary distinctly to relate their use in the small-pox; not only as they evacuate and turn the future mischief to some other part, (§ 30) but also on account of other effects which they possess, (§ 49) and the excellent changes which arise from them. Let us suppose the skin covered with pustules; and the small perspiratory vessels so compressed, that the usual strength cannot push forward the hard compacted matter: in this case the bulk of the contents of the vessels is increased; a febrile heat is so kindled in the interior parts, that the internal exhalent organs become dried, or otherwise so obstructed that they cannot perform their functions. On both accounts a fluid is retained, which has already undergone too long a circulation, and which by a longer delay would be productive of the worst effects; for too much heat produces acrimony, whence a stimulus is applied to the nervous parts; hence also arise febrile heat and thirst, perhaps delirium may supervene: from the increased bulk of the fluids, anxiety infests the præcordia; the thick matter made fluid by heat is coagulated, and rendered more unfit for excretion through the organs which nature often points out for it, that is the fauces or intestines. These disorders require, in the exhalent vessels of both places, a resolution and evacuation of the coagulated matter, and fluidity to be produced in the rest, but so that the fever be no more increased than can be safely restrained by an opiate. Whoever recollects what has been said (§ 13, 18, 39, 49) concerning the effects of emetics both on the fluids and solids, will foresee that they are not improper remedies in this case, nay, perhaps the most proper. Sydenham, treating of acute fevers, says (a), “When I have sometimes happened carefully to examine the
 “matter thrown up by a vomit, and have found it neither remarkable in
 “quantity, nor of very bad quality, I have admired that the patients have
 “received so much relief from it; for, the vomiting being over, the severe
 “symptoms, (viz. the nausea, anxiety, restlessness, deep sighs, blackness of
 “the tongue, &c.) which tormented the patient, and terrified the by-standers,
 “were usually mitigated and went off, leaving the rest of the disease tolerable.” But from what has been said, it appears that the thick fluids are dissolved, the obstructed canals made free and open, the whole body, dried and parched up, becomes moist, and the hurtful matters are expelled; it is no wonder therefore, that such sudden relief should happen from it.

54. The advantages received from emetics in acute diseases being thus cursorily related, the way is paved to chronic complaints; in which the opportunity of giving relief is not so fleeting, nor experience so fallacious, though judgment and discrimination are sufficiently difficult. Vomits seem more especially opposed to those classes of diseases which have their origin and seat

(a) Sydenh. oper. § 1. cap. 4.

in the stomach, or viscera situated near it, which is the case with almost all chronic complaints; for the disorders arising from these parts are quickly dispersed through the system, and the effects of lost or broken health are returned on these viscera. This is no where more evident than in those diseases which are accompanied with loss of reason, and which happen from bad food, or some error in diet, as their proximate cause; for though they arise from passions of the mind, evacuations, or other remote causes, yet an improper method of living often constitutes the proximate cause. The innumerable branches of nerves sent off to the stomach, do not serve either for nutrition or motion only, but rather to promote chylication. The animal spirits, therefore, being dispersed in too great a quantity, one of the causes of health is lost; that is, the instruments destined to convert the usual quantity of food into the nature of our body, become unequal to the task; but the usual quantity being taken into the stomach, there necessarily arises indigestion, the source of other diseases. This is most frequently the origin of the hypochondriac affection, and sometimes of other degrees of defective reason, from the slightest to the highest pitch of madness. The phenomena of this disease shew that the fault is principally lodged in the fluids, and consists in too great a thickness of them, or a dissipation of the most volatile moveable parts---These are the animal spirits, the vaporose halitus of the blood, and lastly the watery elements of it; the greater or less waste of which makes the disease milder or more severe; whilst the blood passes through various degrees of spissitude, till at length it degenerates into a true bile, called by the ancients *atra bilis*. What is known of the nature of this disease, is chiefly owing to chemistry; by the help of which, in this, as in many other disorders, many phenomena otherwise unintelligible, become evident. From the chemical analysis of the blood it appears, that the watery parts being evaporated, there remain a saline, an oily, and an earthy matter, variously combined together, but little fit for the functions of health, as being thicker and lighter than healthy blood. Chemistry likewise demonstrates, by experiments to be depended upon, that oil, salt, and earth, united together, contain more air than water mixed with the rest. The human calculus is an example of this; therefore the solids are too powerful for the fluids, circulate them too quickly, and the waste of the thinner part is increased, whilst the residuum growing thick, refuses an intimate mixture with diluents. The *ingesta*, not sufficiently concocted, add to the disease, obstruct the soft viscera, and weaken or destroy their action. Hence arise obstructions, tumours, and pains of the spleen, liver, and hypochondria. Health requires a restoration of fluidity and miscibility to the viscid part: this is obtained by diluents, saponaceous substances, and attrition. But the nature of the disease, as above explained,

shews that diluents alone are of little use; saponaceous substances alone, though very efficacious, are seldom sufficient; but these aided by attrition and heat exert their whole force, as appears from chemistry. Lastly, attrition in this disease is seldom increased by the common stimulants, which are often found hurtful. It is true, they increase the celerity of the blood, but they increase at the same time its rarefaction. But it is found that attrition is in proportion to the celerity, solidity, and compression: if therefore the ratio of increased rarefaction, exceed the ratio of increased celerity, not only the attrition will not be increased, but on the contrary it will be diminished. A remedy therefore is wanted which may increase the celerity of the blood, and at the same time restrain its rarefaction. It easily appears, from what has been said, that such a remedy is found in the effort of vomiting.---Hence appears, by the bye, the utility of immersion in cold water.

55. A dropfy seems diametrically opposite to this disease; in which a serous lymph drowns the viscera, and the pallid blood deforms the body with a disagreeable colour, and shews that water abounds, and that, by a contrary fault, the oily, earthy, and saline parts are deficient.

A pituitous disposition having arisen in the fluids (which may happen from various causes, some of which the poet (a) has not unaptly described,

*Corrupti jecoris vitio vel splenis, acerbus
Crescit hydrops: aut cum siccata febre medulla
Atque avidæ fauces gelidum traxere liquorem:
Tum lymphæ intercus vitio gliscente tumescit,
Secernens miseram proprio de viscere pellem.)*

immediately the solids are so debilitated that they are scarce able to propel the torpid fluids. Hence stagnation in the lateral vessels, and languor of the functions. The serum is daily accumulated, swells, injures the neighbouring parts, and the causes of the disease are continually renewed. If this happens in one vessel only, an hydatid is formed: if κατά φλέβας, *along the veins*, or in the tunica cellularis dispersed through the body, a leucophlegmatia takes place: if a ruptured vessel pour its contents into some cavity, a local dropfy is produced: if, lastly, (which is often one cause of the disease) the action of the absorbent veins be debilitated, either from obstruction produced in them, or from mere languor and inertia of the solids, whilst the small arteries with open mouths perform their office, and pour their fluid from the drained body without end into a cavity; in this case the fluid being continually accumulated grows thick, and in a short time renders the vessels of all kinds unfit for their office, and produces a topical dropfy. In the cure of this disease the

(a) Sammonicus.

primary

primary cause must be diminished or removed; attenuants, evacuants, exsiccants, and roborants of every order, must be used, that the humid load may be removed, the water lessened, and the vessels so far restored to their strength, that they may perform their proper office, and the native healthy state of the fluids be renewed. To do all this, we find many remedies among practical writers. I know not how many celebrated specifics are mentioned by them which will carry off the disease almost at one stroke, if we are to give credit to their promises. Others are displeased with this short way of doing things, and relate a pompous farrago of remedies, and almost bury the patient under a heap of medicines. The practice of both is to be avoided; nor is the cure wholly to be left to emetics, nor yet attempted without them; seeing they shorten the labour, and perform in a compendious manner what would otherwise require many helps. Anti-hydropic remedies before mentioned, seem to produce their effect by exciting motion and attrition of the fluids, and by carrying off the exuberant lymph. A strong effort of vomiting often repeated, promotes all these at once. It opens the obstructed vessels, breaks down and propels the thick and stagnant fluids, dries up the humid parts, increases the watery secretions, renders compact the dissolved blood, and dissolves the viscid, carries the blood with greater velocity to the extremities, and promotes sweat. It also exerts a strong action on the tumefied abdomen; and, when the disease is wholly seated here and recent, the viscera sound, and the body not very old, the cure is safely finished by repeated vomits with proper regimen and moderate exercise; except in persons, “who being their own masters, cannot so easily be governed, as those who recover by the benefit of being controuled (a).” In the advanced stage of the dropsy, an emetic seems to be of no small use. This is proved by a case mentioned by Forestus (b), of a dropfical person, “swelled in his belly, hands, feet and face; left by the physicians, and at length despairing of a cure, he went to the sea shore, and in a small vessel went some distance on the sea; by which a vomiting being promoted, and afterwards using exercise, he was restored to health.” I might here adduce the suffrage of Sydenham, who, in his elegant tract on the dropsy, supports his opinion of their usefulness by many examples confirmed by repeated observation: but the more advanced in the art know well the elegant words of the author, and the less advanced are cheerfully recommended to the book itself, in the reading of which,

----- *si propius stes*
Te capiet magis; ----- et
----- decies repetita placebit.

(a) Cels. Medicin. lib. iii. cap. 21.

(b) Observ. lib. xix. obs. 33.

----- if closer thou attend
It will strike thee the more ; ----- and
 ----- a thousand times repeated will please thee.

But in this disease the cure is not to be committed to mechanical action, unless the viscera, and other circumstances, are as mentioned in paragraph forty-fourth.

56. From what has hitherto been said, it will clearly appear what effects may be expected from the action of emetics in diseases arising from a serous colluvies. Their use also will appear in the rickets, a disease troublesome to children of both sexes, difficult to remove, and frequent. It is commonly produced by some fault arising in the abdomen, and propagated as far as the medulla; by slow degrees it digs into the very pillars of the body, and renders the hardest and almost inflexible bones too easy to be bent. The origin and progress of the disease, the curatory indications, and also the manner by which it may be relieved by repeated vomits, will clearly appear from the following observations (*a*).

1. The hardest bones in the body were once a moveable jelly, membranes or cartilages; which by degrees, growing hard through various degrees of solidity, at length become rigid bones.

2. There are two causes of this induration; viz. a secretion of a bony matter from the blood, and a firm apposition of the matter secreted, or a strong compression of the particles one to another. These are the effects of a complete vigour of the living powers, and the action of the neighbouring incumbent muscles. Therefore,

3. If the blood be not sufficiently stored with proper particles for the structure of the bones, a less secretion will be made, and less fit for the purpose of ossification. Moreover, if muscular action be deficient, and the strength languid, another cause of ossification is wanting. Hence, therefore,

4. It appears, that those conditions which can produce the rachitis, are all of that kind which usually deprave chylicification and sanguification. Particular regard, therefore, must be had to these, and that kind of medicine be chosen, which may correct and remove the fault in its very formation, (§ 18. 27. 39); may mend the hurtful effects of it, beginning to appear in other places; and in the best manner relieve the defect of impetus and motion in the muscles, (§ 49.) Purgatives indeed happily carry off the saburra of the viscera; but if they are too strong, they debilitate much, and leave a thick but vapid matter behind, more apt to produce obstructions; and the solids, already too weak, they weaken farther. Emetics powerfully purge the viscera, are not so hurtful to the vital powers, and strengthen the solids; especially if an

(*a*) Vide Alex. Monr. Anatomy of the Bones, p. 34.

accurate regimen be observed, if the body be often immerfed in cold water, and laftly, if the fymptoms arifing be fometimes moderated by fpecifics.

57. Whether a vomit be useful in attacks of the gout, to whom, when, and how often it ought to be exhibited, is not eafy to determine. Thofe, whose authority I very much regard above moft others, altogether diffuade from their ufe in the paroxyfms, except nausea, vomiting, and other figns of the ftomach being loaded with fordes, be urgent, and then they only admit the lenient emetics. But other phyficians, (*a*) of no fmall note, are of an oppofite opinion; and one (*b*) afferts, that “ he has feen the ufual attacks of the gout “ always rendered more mild, when the *prima regio* has been cleared of “ fordes, immediately at the commencement of the paroxyfm, by a gentle “ emetic, either alone, or joined with a laxative.” Who is fufficient to decide thefe differences? As for me, difmiffing thefe facts, I fhall endeavour to demonftrate, in few words, the ufe of emetics in a different ftage of the fame difeafe; that is, between the paroxyfms, in order to prevent the future. The acrid matter ftagnating in the very fine paffages, and exciting excruciating pains, is expelled after a gouty paroxyfm (if the cure be rightly conducted, nor the efforts of nature checked by the untimely ufe of fome external or internal medicine) a gentle fweat moiftens the part affected; or, if the difeafe be of a ftill worfe kind, having a deeper feat in the body, and producing tophi, an alleviation and remiffion of all the fymptoms fucceeding, fhew the evacuation to have been critical: therefore a return of the fomes of the difeafe into the blood, and upon the parts appointed for the more noble functions of life, is by no means to be feared; but the reft of the difeafe is to be removed in the manner of any other more fevere chronic complaint. If the fluids are depraved, they muft be purged by alterants; the weak folids muft be ftrengthened, the powers of the whole body be renewed, and the root of the cruel difeafe, as far as art can effect it, be cut up. For thefe purpofes the *medicina gymnaftica*, or *exercife*, is extremely ufeul; which, above many other helps, revives the weakened limbs with frefh vigour. Riding on horfeback, or in a carriage, running, &c. are excellent helps. But how often does the unfriendly feafon of the year prevent thefe exercifes? In the winter or fpring the gout commonly abates, but is yet worfe if it intermits in the autumn. For the air heavy and cold, wholly prevents going abroad; and the diftorted joints, yet lame with the late pains, do but ill admit of ftanding long on the feet, or that the body be tortured with any kind of motion indoors, or in fome covered walk. Friction, in reality, does nothing more than flightly clean the external parts; it evacuates no pituitous matter from the

(*a*) Vide Dr. Cheyne’s Eflay on the Gout, p. 77, &c.

(*b*) Hoffm. Diff. Decad. i. p. 411.

viscera, which, for want of motion, necessarily begins to be troublesome. Nor are there wanting to patients flattering companions, who know not how to give a dearer pledge of friendship, than by ruining their own health by drinking, and attempting the ruin of a man recovering from disease, whilst in words they wish him his usual health, but in reality take the means to destroy it. For these and the like reasons, an emetic is almost always very necessary to these convalescents; nor will it be difficult to collect from what has been said, in what manner it supplies the place of vigorous exercise. It appears also in what manner vomits assist the animal functions, how they concoct the thick humours, and lastly, more or less answer to every single indication. Nor are discerning practitioners afraid, twice a month, or sometimes oftener, to order a vomit to persons in this situation.---Having therefore, taken a view of their use in most chronic diseases, we intend slightly to run over the complaints which are troublesome only to the tender sex.

58. Not only the manner of living, but almost the very vital stamina, seem to have given a more soft lax temperament to women than to men; unless a harder lot in life may have imparted to them an unnatural one, and an healthy mind in a healthy body, hardened with severe labour, should have given them a firmness altogether imitating muscular force. There is however a stage of life in which the condition of women, from the least error, becomes liable to the worst mischiefs; that is, at the time the difference of the sexes begins to appear, which is at or about the fifteenth year of their age: for till this time, in a medical sense, they are but one and the same genus or kind. But in what they differ, why, and what are the physical causes of this difference, is not necessary at present to explain, having been largely treated of by others. But a brief recital of these diseases, as it may serve for a more clear explication of this argument, seems not improper to our purpose.

1. The terminus of increasing bulk approaching, the same organs which have hitherto prepared nourishment for the body, still continue to prepare more than nutrition alone requires. The superabundant blood therefore now passes off periodically by the uterine vessels. If it be detained too long in the body, through weakness of the vessels, or by an obstructed passage, plethora is added to plethora, and the diseases of the sex presently appear.

2. If a watery dissolved or acrid blood pervade the uterus, and momentum or force be wanting to open the mouths of the vessels so far that they may deposit the red blood, it then passes into the lateral vessels, is poured into the glands every where placed in the cavity of the uterus, and becomes thick: at length there passes off a viscid fluid, different in colour, sometimes white (from which it has been called *fluor albus*) or whitish, scarce tinging a cloth; sometimes yellowish, greenish, blackish, and affected with every colour
between

between these; sometimes it passes off without fetor, sometimes it smells; sometimes it is mild, generally at first, but the disease continuing long it becomes more acrid, deeper coloured, and more fetid. The opening glands separate and throw off the thin humours of all kinds; amongst which are the nutritious, which ought to have given vigour to the solids, and momentum to the fluids. Hence strength declines daily, the limbs lose their power, digestion fails, a more indelible faulty state corrupts the fluids, and a disease creeps into the whole œconomy, than which (I have heard the skilful assert it) there is none among the whole troop of chronic complaints more cruel to the sex, more difficult to be cured, or more fatal in its effects; for the very instruments fail, by the help of which the other parts ought to be repaired, and the seat of the disease is in a viscus, to which, of all others, it is most difficult to apply a remedy. — 'Tis true, it does not soon fail, but when once affected, it preserves its vitiated state long; because it is a part, says Forestus (*a*), “ which readily receives the excrementitious particles of other “ parts, both on account of its inferior situation, and the multitude of veins “ running to it, and also on account of the usual natural purgation.” Add to this, that its solid vascular structure does not easily yield to medicines, the powers of which are weakened by a long circuit before they reach it. And after the disposition of the blood has been made better, the lax texture of the glands obstinately opposes a cure, and those medicines which are opposed to this softness, constrict the orifices of the arteries, and render menstruation more difficult. Native laxity, a bad diet, an inactive and luxurious life, generally produce this disease: for, as the same Forestus has observed, *country-women seem seldom affected with it*. These circumstances also often precede a suppression of the uterine flux (*b*). Such remedies, therefore, must be applied in these cases, as are opposed to diseases arising from causes of this kind; not omitting repeated vomits: for, besides the effects hitherto mentioned, of cleansing the stomach, stimulating the solids, and producing a wonderful attrition in the blood, they also propel it with such force to the uterus, that we find examples (*c*) where this mechanical force alone, in retarded menses, has produced an instant flow. And, unless the patient be *hard to vomit*, or can ill bear the action of an emetic, no less advantages are to be expected from it in the *fluor albus*, than in most other chronic diseases. But it often happens that patients in this disease are fatigued with the least motion; whence they receive more harm than good from a vomit. This, therefore, is first to be considered, before emetics be given to patients of this kind.

(*a*) Forest. Obs. lib. 28. obs. 21.

(*b*) Oper. Friend. page 67. 80.

(*c*) Plater. Obs. Med. p. 191.—Hildan. Obs. cent. 3. obs. 58.

59. But there is nothing perfect and happy in every respect: emetics have their advantages, and also their disadvantages; nor are these less to be feared than those to be desired, if by chance the medicine be given improperly. But the unsuccessful events of a remedy no less shew the utility of it, than if the most desirable effects had taken place from it; they demonstrate its power, and prove its efficacy, whilst they convict the artist of unskilfulness and temerity; nor is the medicine to be accused of the death of a man, but the hand which improperly or untimely administers it. And though, from the doctrine of emetics already delivered, it may appear clear to the skilful, in what cases they may be useful, and in what hurtful, yet it will not be improper to close the present dissertation with a short account of the diseases in which a vomit is especially to be avoided.

1. The natural structure of the body is a reason with some writers (*a*) why emetics should not be given to some persons; those of a spare thin habit, long neck, narrow breast, and hard to vomit; and those subject to spitting of blood, fainting, or a troublesome cough; have been excused from emetics: but persons of a contrary temperament have often, by the advice of physicians, experienced their salutary effects. In the use of the stronger emetics these circumstances certainly ought to be considered, lest perhaps we should fall under the censure of temerity or incaution; nor ought they wholly to be omitted in ordering a gentle vomit. Idiosyncrasia, or a peculiar dislike to some things, known to the patient from experience, but not discoverable by the physician, unless he has learned it from him, may forbid the use of this or that medicine, which otherwise, given by one not knowing it, would produce many mischiefs.

2. In inflammatory diseases, when the blood is polluted with a parched lentor, and, unfit to pass through the extremities of the arteries, stagnates, and must not be urged by force; as in acute fevers, topical inflammations, the pleurisy, frenzy, inflammation of the liver, and the like; the vital powers must rather be diminished than increased; therefore, the accession over, and violent pain urgent, an emetic will not be safe.

3. Nor, if the action called tonic, of any viscus or part be much injured, or if the just force by which the solids ought to re-act on the fluids be much lessened, ought we to try the mechanical force of a strong emetic, before regard be had to the part, whether it can bear to advantage an attack of such great violence, or whether it will not suffer a greater inconvenience from it. For example; in a dropsy of the belly an emetic carries off the water, but for a time at least it increases the swelling.

(*a*) Vid. Fallop. de purgant. p. 81.

4. The action of emetics is certainly great on the lungs, because in the effort of vomiting, an unusual quantity of blood is passed suddenly through them, by which the vessels are distended, the vesicles compressed, on which the air retained within re-acting strongly, renders the pressure much more strong and powerful; and if the gaping vessels have before let out the blood, the small wounds being almost certainly enlarged, will increase the hæmoptoë. In an incipient hæmoptoë also, produced by some external cause, while the blood is yet bland, nor contaminated with any sordid corruption, we can scarce have recourse to an emetic; by which the latent cruor, corrupted by stagnation, is expelled the vesicles of the lungs, and may increase the disease otherwise not very dangerous. Emetics, therefore, can scarcely be given to persons affected with pulmonary complaints, unless where an inundation of pus has overflowed the lungs, and death otherwise inevitable, be threatened from suffocation.

5. Lastly, we must carefully abstain from their use in those diseases which are caused by much thick blood, a copious very tough pituitous matter almost immovable, or any other matter of the like kind, afflicting the brain and origin of the nerves, as in the more severe kind of apoplexy, paraplegy, hemiplegy, in the lethargy, carus, and the like; for commonly they fix the disease deeper, and in a very strong operation they destroy life. It is scarce necessary to dissuade from the use of emetics when there is yet danger of an hæmorrhage after a limb has been wounded or cut off, though some symptoms might seem to point them out as necessary; or lastly, when by large abscesses, or by any other opening, a great shock being given to the system, the patient would bleed to death.

THE following *Essays on the Weather and Diseases of London in 1751, and the three subsequent years*, were originally inserted in the *Gentleman's Magazine*, commencing with the 21st volume. They were deemed worthy of selection here, not merely as blossoms presaging fruit, but as ripened fruit itself, fit for immediate service. It is, indeed, to be regretted, that such periodical communications were not longer continued, in a city, which affords, undoubtedly, the most multifarious observation.

Editor.

O N.

W E A T H E R A N D D I S E A S E S.

Mr. URBAN,

IF the inclosed account of the weather should appear to be not unworthy of a place in the *Magazine*, nor be disapproved of by the ingenious part of the faculty, it will induce me to proceed in furnishing some short remarks of the like nature once a month, whilst health and leisure permit. I shall say nothing at present of my motives to this essay, or insist upon its utility. I shall only observe, that the barometer I use is a good one; and the thermometer is graduated by Fahrenheit's scale, and made by a workman of established character: it is suspended at about two inches distance from the wainscot, in a room where no fire is ever kept, nor does the sun shine into any part of it above two hours in a day, nor then within some yards of the thermometer; above it is a wide staircase, and a door opens out of the room where it is placed into an airy court almost every half hour in the day.

The direction of the wind is not always so exactly put down as I could wish, from the stiffness of the neighbouring vanes; nor is its force, or the measure of rain, determined any other way than by conjectural estimation.

I am, &c.

Of the Weather in April 1751.

The temperature of the air in respect to heat and cold, during the whole of this month, hath been surprizingly equal, notwithstanding the wind has blown from almost every point of the compass. The lowest degree to which the mercury in the thermometer fell was 43, the 2d inst. with a clear cold wind from the N.E; the highest it arose to was 57, the 24th, the weather fair, warm, serene, and the wind south: so that during that period the weather varied only 14 degrees, from one extreme to the other, and this in so slow a manner, that the mercury did not rise or fall quite 4 degrees in any day of the time.

The motion of the quicksilver in the barometer, has been still more confined. It stood the 26th of last month at 29 inches one tenth, the wind westerly,

terly, and much rain; and rose by degrees to 30, the 8th inst. the weather moderate, fair, clear, wind N. E. this was its highest ascent; the extreme variation 9 tenths. Its greatest rise on one day was the 26th, when it rose from 29.1, to 29.4, the wind westerly and high. Its greatest fall was 3 tenths, on the 13th, the wind changing from north to south; an equality which would scarce have been expected.

Great quantities of rain have fallen during this month, sometimes in heavy sudden showers, sometimes in long-continuing rains; and such has been the tendency to wet, that we have had showers frequently with a north-east wind. The 15th, 16th, 17th, and 18th were fair and mostly clear: besides this short season of fine weather, it has scarcely been fair 48 hours together, the whole month. The wind was some days pretty high and stormy; there was one sudden storm of hail the 21st, and some frosty mornings about the same time.

The whole of the month may be said to have been wet, though moderate; and rather cold for the season, than remarkable for any thing else.

With respect to diseases, the only one that I have seen that has looked like an epidemic, is an insidious species of peripneumony. The sick complain first of chillness, shivering, and general pains, frequently of the limbs, then of some part about the thorax, but this last never acute, not often with a cough, and sometimes without much difficulty of breathing. They frequently complain of pain upon sneezing, coughing, or even swallowing, on one side of the neck, just above the place where the middle of the mastoid muscle takes its rise from the clavicle. This is often acute, and where it is so, from an instance or two I have seen, seems to afford a bad prognostic. The patients can lie easy in one posture, which is commonly upon the back, but not on either side. They have, or affect to shew, great composure and ease, which imposes on those about them, till they are suddenly alarmed with some unexpected alteration, which carries the patient off in a short time.

The blood is commonly fizy; the urine crude or turbid, without a fair sediment; the pulse quick, small, at length weak, and with a remarkable jerk; the tongue moist, and drinking is rather fatiguing than pleasant. Early bleeding, gentle antiphlogistic purges of sal cathart. and manna in the pectoral decoction; cupping on the side, with blisters, mild diaphoretics, and pectorals intermixed, have in some cases been successful.

As to consumptions, they are rather endemic than epidemic here, though this month most commonly is fatal to many who are exposed to them.

Should this imperfect essay be favourably received, the author will endeavour to continue it with care and assiduity.

Observations on the Weather, &c. in May 1751.

The weather continued cold, dark, and rainy, as in the preceding month, till the 18th of the present, in which time it was seldom fair above 24 hours together; very often it rained, without intermission, great part of the day and night, with the wind varying from S. E. to S. W. or N. W. About the 18th the weather became fair and clear, yet cool, the wind mostly N. or N. E. with a few very flight showers.

The mercury in the barometer kept about 29.6 tenths at a medium: during the first part of the month it sunk to 29.2, the 3d inst. with much rain, wind S. W. and rose by slow advances by the 18th to 30.4. where it continued several days, wind N. and N. E.

The variations in respect to heat and cold, have been more considerable. The mercury in the thermometer continued almost stationary between 49 and 58, till the 9th, when it sunk from 52 to 47, viz. 5 deg. (its greatest variation in 24 hours, any time this month) the wind N. W. with a pretty sharp frost, which was felt in many distant places in the country. The north-west parts of Yorkshire had much snow, the earth was frozen hard, and thick ice was on the water. From this time the weather became somewhat warmer, the mercury sometimes rising to 58, and on the 21st and 22d at noon to 64, the air serene and vernal.

The same diseases continued during the rainy season; intermittents, both tertians and quartans, likewise appeared, and some obstinate rheumatisms, but none of them attended with any unusual symptoms, or requiring any method of cure different from what is commonly put in practice.

Though it is out of course, it may not, however, be altogether improper to observe in this place, that the winter in general has been remarkably wet and cold; that diseases of the breast have been more frequent than any others, and these chiefly such as manifestly arose from a *serosa colluvies*.

The small-pox was uncommonly mild in general, few dying of it, in comparison of what happens in most other years. Great numbers of children had the whooping-cough, both in London and several adjacent villages, in a violent degree. Strong, sanguine, healthy children seemed to suffer most by it; and to some of these it proved fatal, where it was neglected, or improperly managed in the beginning.

For though nothing seemed to avail much in carrying off the disease, but change of air, with asses milk and proper diet; yet in constitutions like those above described, if a vein was not opened, sometimes oftener than once, with blisters, manna, oxymel scilliticum in small cinnamon-water, given frequently in small doses, the incessant cough brought on inflammations in the lungs,

sometimes of greater, sometimes of less extent, in proportion to the fulness of the vessels, and the disposition to inflammatory disorders.

A strong healthy child, betwixt two and three years old, was seized with this disorder in a violent degree: he was sent into the country, the season cold and wet, where his disorder continued without abatement, having no medical assistance. In about a month the cough became less severe, but a continual feverish heat succeeded, with difficulty of breathing, a short, troublesome, but not convulsive cough, a quick, feeble pulse, and loose greenish stools, or else a tendency to costiveness. After three weeks illness, various methods were put in practice to assist him, but in vain; his fever increased, with some irregular remissions, and his breathing became more difficult till he expired, after about six or seven weeks indisposition.

Upon opening the body, the lungs on both sides were found full of matter, not collected in abscesses, but dispersed and hardened throughout the whole substance of the lobes, in the lower edges of which it was so closely impacted, and in a manner indurated, as to resist as much in cutting as the firmest glandular substance in the body.

On viewing the condition of the viscera in the lower belly more attentively, some of the contents of the stomach were found floating in the left hypochondrium, being part of an oily draught unaltered: it was judged that some slight wound had been made in the stomach, though the knife was conducted with the utmost circumspection; but the opening was soon discovered to have been made by another cause; that part of the bottom of the stomach which lies next the spleen, about the breadth of a crown-piece, was in so putrid a condition, as scarcely to bear the slightest touch, yet without having its colour much altered. The intestines were almost transparent and exanguious, and the colon larger than the stomach; the gall-bladder full of a yellowish serum; the spleen small and harder than common; every thing else was found. It must seem a little remarkable that the child had no vomitings, no *singultus*, or any symptom from whence it could be discovered that the stomach was particularly affected, unless we attribute to this cause a great unwillingness in the child to be moved, and at one period of the disease a total refusal of liquids or other sustenance; but this went off a few days before he died, during which time he took every thing with a kind of greediness. This case has been more prolixly related than perhaps is suitable; but 'tis done for the sake of precision, which is always necessary in regard to facts with which it is of use to practitioners to be acquainted.

Observations on the Weather, &c. in June 1751.

The motions of the quicksilver in the barometer have, in this month, been confined within narrow limits: twice it subsided from 30. and 30.1, (the point where it was generally stationary during the last month) to 29.6, viz. on the 28th ult. and the 16th inst. the wind being westerly, with rain. It rose about the 3d to 30.3, and continued there a day or two, the wind E. and N. E. which was its greatest ascent. The variations in the thermometer have been more considerable. The mercury stood at 53, the 26th ult. its lowest point, and where it had remained almost stationary during the preceding month; from whence it rose by slow advances to 60, about the beginning of this present. And on the 5th, 6th, and 7th, the mercury stood at 68, at seven in the morning, the usual hour of observation; though by noon it arose to 73. But as these notes are intended to point out the general temperature of the air, the effects of the mid-day sun are not always mentioned. For though the sudden changes of the air, without doubt, affect the animal œconomy, as certainly, and as dangerously, as the more equal procedure of a malignant season, yet it is not every gleam of heat, or sudden chill, that can produce such effects.

An account of this kind would however be imperfect, were no notice taken of the sudden alterations; and this, perhaps, may have induced some writers to give their journals entire to the public: but it seems quite sufficient for every medical purpose, to mention only the greatest variations that have happened in the space of 24 hours, on either of the instruments above mentioned; which variations have in this month been very moderate, 4 degrees in the barometer, 5 in the thermometer, having been the greatest in one natural day.

As the preceding months were cold and wet, this hath been, for the most part, warm and dry; there having been fewer rainy days in this month than fair ones in the former, though the wind, excepting about 10 days, was generally S. or N. W.

The diseases that have chiefly appeared in this month, were the fore-throat, which was, some years ago, epidemic; and a slow remittent fever, of which some cases have occurred since the warm weather came in.

The former was treated in the method which was generally found beneficial when it raged before, and with success; the latter, when neglected at the beginning, which, from the mildness of its symptoms, most frequently happens, too often proves fatal. The sick find a weariness, head-ach, and stupor, with pains in the limbs, sometimes in the side, but not acute: they have slight shiverings, succeeded by heats, but not often vehement: the complaints

increase as night approaches, but are easier the next morning after a sweat, which in some is profuse: thus they continue several days, often without the least apprehension, till on a sudden those about them are surprized with the appearance of imminent danger.

Moderate bleeding, gentle diaphoretics, and, in some cases, small doses of the bark, would probably have prevented those difficulties, from whence too often no art can extricate them afterwards.

It may not be improper to observe, that the town in general has been and continues very healthy, as appears both from the accounts of such as cannot be unacquainted with this circumstance, as well as from the weekly bills, if their testimony may be in the least relied upon. According to these the burials have been decreasing several weeks, and by the last, amount to no more than 298, than which, it is apprehended, few can remember to have seen them lower at this time of the year. That these bills are not correct, is not entirely the fault of the company of parish-clerks, who, it seems, want power to compel those who ought to be under their direction to do their duty. But wherever the omission is, 'tis pity but it was rectified, since nothing would contribute so effectually to demonstrate the influence of the seasons on human bodies, as a just and regular account of those particulars, which properly make a part of the bill of mortality.

Observations on the Weather, &c. in July 1751.

The weather in this month may be said to have been warm and wet; it having rained more or less on 24 days out of 30; on some of them very heavily, and during a considerable part of 24 hours.

The wind was for the most part S. W. and the sky frequently cloudy when it did not rain; the air temperate.

The mercury in the barometer sometimes sunk to 29.4. and one day rose to 30.1. viz. on the 9th, the wind E. But it generally kept between 29.7. and 9, not varying above six tenths of an inch in the whole month, nor shifting above two of these in one day.

In the thermometer the motions of the quicksilver were as limited as in the barometer. Twice it sunk to 59, viz. on the 26th ult. and the 19th inst. On the 10th, 11th, and 12th, it stood about 64. and 5, its highest ascent, at the usual hour of observation; for at noon it rose to 72, on the 10th, the warmest day this month; wind E.

As the variations in respect to heat did not exceed 6 degrees in the whole month, so no two succeeding days differed from each other above 3 degrees, a greater equality than is common to be observed at this season; to which
cause,

cause, very probably, and to the moist temperature of the air, may be ascribed the uncommon healthiness of the town, and, as far as I can learn, of many parts of the country also.

Observations on the Weather, &c. in August 1751.

Barometer.

Highest $30 \frac{3}{10}$, the 24th inst. Wind N. E.

Lowest $29 \frac{4}{10}$ 27th ult. S. E.

Common station about $29 \frac{7}{10}$.

Greatest variation in one day $\frac{3}{10}$.

Thermometer.

Highest 64 degr. 5th inst. Wind S. S. W.

Lowest 57. 25th. N. E.

Greatest var. } 3 22d { from } N. W.
in one day } 61 to 58 }

Common station 61 degrees.

It is scarcely possible to meet with a more equal temperature of the air in any climate, than has here been observed, during this last month; the wind has, for the most part, kept betwixt the South and West points, till within these few days. The first and last weeks of this period were moderately warm, with several fair days. The middle part of the month was likewise moderately warm, but wet; and, excepting a very few days, the whole month rather cloudy and overcast.

As it seldom happens that there is any remarkable increase of mortality, without some very sensible change in the temperature of the air preceding it; and as the alteration in the weight of the atmosphere did not exceed nine tenths, nor the heat of it vary above seven degrees, in the whole month; it is the more difficult to account for those fluctuations in the weekly bills in this period; the numbers having fallen from 306 in one week, to 224 the next, and again rose to 304, without any manifest reason. And though it would not be candid to attribute any part of this to want of care in the compilers of the bills, without good evidence, yet one cannot but wish that all possible care might be taken to bring in their accounts as regularly as possible; otherwise the main end of an institution, capable of being highly beneficial to society, must not only be defeated, but mistakes and prejudice be thereby occasioned.

Observations on the Weather, &c. in September 1751.

Barometer.

Highest $30\frac{1}{8}$, 25th ult. Wind, N. E.Lowest $29\frac{1}{8}$, 19th, at night, with thunder, lightning,
and heavy rain. S. E.Greatest varia- } $\frac{6}{8}$, from $30\frac{2}{8}$ to $29\frac{6}{8}$, { N. W. to
tion in one day } the 30th ult. { S. W.Common station about $29\frac{3}{8}$.

Thermometer.

Highest 62, with much rain, the 20th, Wind S. E.

Lowest 50, fair and frosty, 9th, N. W.

Common station about 57.

Greatest varia- } 6 deg. viz. 59 to 53 { S. W. to
tion in one day } { N. W.

During the first part of this month, the weather was moderately warm, clear, and fair; from thence it changed to cool, windy, and wet; and continued so till towards the conclusion, when it became more temperate, and inclined to fair, though with some gusts of wind, and heavy rain. This variable state of the weather, however, seems to have had no remarkably injurious effects on the health of the people, the weekly bills continuing moderately low, and no epidemic disorders appearing, so as to engage the attention of the public, or of the faculty. Some intermittents occurred about the beginning of the month, but these were neither so frequent, nor their symptoms so vehement, as often happens about this season.

Observations on the Weather, &c. in October 1751.

Barometer.

Highest $30\frac{4}{8}$.Lowest $29\frac{4}{8}$.Greatest varia- } $\frac{3}{8}$ { 30th ult. from $29\frac{7}{8}$ to
tion in one day } $\frac{1}{8}$ { 30. S. W. to N. W.Common station about $30\frac{1}{8}$.

Thermometer.

Highest 56.

Lowest 46.

Greatest variation } 5 deg. { 17th, 52 to 47.
in one day { N. E. cloudy.

Common station 52.

The weather in this month has been generally fair, clear, cool, and frosty, there having been more dry days in this month than in many of the preceding. There were some wet days about the beginning, and it now seems disposed to rain, the wind having skipped from N. E. E. where it kept most part of two weeks, to S. E.

The variations in respect to heat and cold, as well as the weight of the atmosphere, have been very inconsiderable; much less than in the preceding months: to this perhaps may be ascribed the share of health which the town enjoys; the weekly bills in the first week being 317, in the second 373, the third 292, and the last 358.

A slow continual fever, beginning with acute pains in the forehead, extending to the eyes, with scarce any perceptible rigors preceding; a quick, soft pulse, not much heat, a moist tongue, crude urine, moderate sweats, but easily rendered profuse, made its appearance about the beginning of the month, though many were not affected with it, and few mortally: bleeding eased, but did not remove the pains in the head; blisters were of use; mild diaphoretics and cardiacs, in small doses, kept up the pulse, and afforded great relief; large doses, especially of the volatile kind, occasioned restlessness, thirst, a dry tongue, copious sweats, and high-coloured water, however plentifully the sick took diluters. Those who recovered appeared to grow better about the 14th or 15th, the water depositing a copious sediment of a yellowish colour.

The malignant fore-throat affected several, both children and adults, some of whom had large hard tumours on each side of the neck externally; where these appeared early, and were very large, the sick were in great danger, and if they recovered, the amendment was slow and tedious.

Observations on the Weather, &c. in November 1751.

The weather in this month has been unusually tempestuous, and more variable than in the preceding. The last concluded wet and cold, the present began cold and frosty, and continued so till the 12th; the wind shifting then from N. E. to the Southward, brought rain and a warmer air; and from that time to near the conclusion of the month, we have had frequently very high winds, and heavy rains with some snow; with respect to cold, variable but not immoderate*.

Barometer.

Highest $30\frac{3}{10}$, 5th inst. frost. Wind N.

Lowest 29.0, 19th, heavy rain and snow.

Greatest variation in one day $\frac{4}{10}$, 19th inst.

Common station about $29\frac{8}{10}$.

* On the 21st was snow, hail, much lightning and thunder.

Thermometer.

Thermometer.

Highest 54, 26th ult. Wind S. E.

Lowest 42, 3d inst. clear; very cold. N. W.

Greatest variation } 8 deg. { 28th, 54 to 46.
in one day } N. W. high.

Common station 47.

The conclusion of the last and the beginning of the present month were moderate, and the weekly bills very little affected. After the cold frosty weather set in, the burials increased from 319 to 395, and kept up nearly to the same number the week following. A more temperate moist season succeeding, reduced them to 338. It has been frequently observed, and as far as the bills may be depended on, is demonstrable, that an excess of wet, with moderate warmth, is not so injurious to our constitutions, as a severe cold season.

Observations on the Weather, &c. in December 1751.

The weather in this month was variable: the greatest part of it was fair, frosty, dark, foggy, and cold; the wind northerly: the latter part of it was wet, and, with respect to cold, moderate; the wind generally W. or S. W. The weekly bills, which were very low in the last month, increased with the cold weather, and sunk again as it became more temperate.

Barometer.

Highest 30.4, 30th ult. Wind North.

Lowest 29.5, 20th inst. Wind S. E.

Greatest variation in one day $\frac{3}{16}$.

Common station, 30.

Thermometer.

Highest 51, 21st inst. Wind S. E.

Lowest 37, 4th inst. thick fog. N.

Greatest variation in one day 6 deg.

Common station 44.

In the preceding month the small-pox began to make their appearance more frequently than they had done of late, and became epidemic in this. They were in general of a benign kind, tolerably distinct, though often very numerous. Many had them so favourably as to require very little medical assistance, and perhaps a greater number of people have got through them safely than has of late years been known; for the truth of which remark, the writer refers to the experience of practitioners. And as the small-pox, of all the diseases mentioned in the weekly bills, is, perhaps, the only one of which we have

have any tolerable exact account, it being a disease which the most ignorant cannot easily mistake for another, it may not be improper here to subjoin the amount of the general bills, and the numbers of those who died of the small-pox during the four last years.

	Total Amount.	Small-pox.
In 1748,	23,869.	1789.
1749,	25,516.	2625.
1750,	23,727.	1229.
1751,	21,028.	998.

And here one cannot but regret the present defective method of compiling these bills; the list of diseases is itself absurd in several instances; and the persons who are to assign a name to the disease of which any person died, are the least qualified perhaps of all others to do it properly. It is needless in this place to point out to physicians the benefits that would most probably accrue to the science they are conversant in, from faithful histories of the air, and the most obvious mutations in respect to its qualities, together with correct accounts of the several diseases of which those died whose deaths are registered.

It would likewise take up too much room in this place to describe the uncertainty to which those are exposed, who would form any useful or precise ideas from the present bills; it may not, however, be improper to wipe off one unjust aspersions, which from these very bills is cast upon our country by foreigners, at least, so far as any thing of this kind can contribute to it.

The three most capital articles in our general bills, are Consumptions, Convulsions, and Fevers; under which last article are commonly ranked, not only common inflammatory fevers, but every other species that is usually enumerated; yet the number of those who are said to die of fevers seldom equals, very seldom exceeds the number of those who are said to die of Consumptions; nay, it is much the most common for these to be as four to three of Fevers. Hence foreigners, who are ignorant in what manner our bills are compiled, give it out, that a Consumption is the grand endemic of England; and conclude, unjustly, that, as scarce any disease is known to be more affected, either for the better or the worse, by the air than this is, the air of England must most certainly have something in it extremely pernicious, as a disease, so much depending on the state of the air, is so frequent among us: whereas, in fact, the truth of the case appears to be this: the searchers are commonly two as poor and ignorant persons as the parish affords; these are to see all dead bodies, and to report to the company of parish-clerks of what disease they died: if the body is emaciated, which may happen even from an acute fever, 'tis enough for them to place it to the article of Consumptions,

though the death of the party was perhaps owing to a disease specifically different; and thus a monstrous account is framed by the ignorance of the searchers, to the disgrace of our country, and even so far as to discourage some foreigners from coming among us.

It may be also observed, that from the same cause springs another absurd effect, which is the article of Convulsions. 'Tis not uncommon for persons who die of very different distempers, to have some convulsive motions before they depart; in fevers of various kinds, nothing is more common: yet if any thing of this nature is hinted at before the searchers, or they make any inquiry and find this to be the case, the dead are immediately added to the article of Convulsions. Of these facts the writer has known a multitude of instances; curiosity at first, seconded by an inclination to contribute all in his power to rectify so flagrant an abuse of an institution designed for, and still capable of, very beneficial purposes, having engaged him in some enquiries of this nature.

From comparing the accounts of the weather given in the preceding months, it will appear, that the seasons, excepting a greater tendency to rain than has happened for several years past, have been uncommonly moderate; no extremes of heat or cold, nor any great or sudden changes, in respect to either of these qualities. This may, perhaps, in a great measure have contributed much to the healthiness of the year in this metropolis, it having been before observed, that no weather is in common so little productive of acute and fatal diseases, as the warm and the moist, nor any so dangerous in these respects as the opposite; and may at the same time account for that remarkable addition to the article of coughs and hooping-coughs, which appears in the present year compared with the preceding; the account whereof is as follows:

Died of the cough and hooping-cough	}	In 1748,	150.
		1749,	82.
		1750,	55.
		1751,	275.

It may likewise be farther observed, that, according to the sum of the last bill, the chronic diseases are more numerous in proportion than the acute, these seeming to have diminished in a somewhat greater ratio, and that probably for the reason before assigned; viz. that moist and moderately warm seasons are the least of all disposed to produce acute diseases. For as to the hooping-cough, it may rather be ranked among the chronics, it seldom proving fatal in a short time, when so it terminates.

Observations on the Weather, &c. in January 1752.

Barometer.

Highest 30. 4. Lowest 29. 0, 14th. High wind, S. Rain.

Greatest variation in one day $\frac{2}{3}$.

Common station 29. 5.

Thermometer.

Highest 51 deg. Lowest 42 deg.

Greatest variation in one day 4 deg.

Common station 45.

The barometer in this month has afforded an unusual phenomenon, which is worthy of notice, and especially as the cause of it is since come to light. In the conclusion of the last and the fore part of this month, the quicksilver stood mostly above 30 deg. with a northerly wind. It sunk about the middle of the month very low, with the wind at S. E. and S. W. viz. to 29, and rose but a degree or two during ten days; though the wind shifted to the north-east, and kept northerly all the time, with dark, cold, moist weather, some rain, and now and then a slight appearance of snow.

What is most singular in this case is, that the quicksilver should sink so low, and continue there so steadily, with a wind that commonly raises it to 30 deg. at least, that is, a full inch higher, unless great quantities of snow fall at the same time; but as very little of this appeared about London, the observer was at a loss to account for it any other way than by supposing that in the north something unusual must have happened, of which, indeed, he was soon after informed (a).

The variations, in respect to heat or cold, have been very inconsiderable; the mercury having traversed only nine degrees during the whole month, and only four of these in any one day. But to the senses the weather seemed much more variable, it having been in general a dark, moist, cold, and unpleasant month.

A distinct benign kind of the small-pox continued to be the epidemic of this month; a few confluent cases occurred, but rarely, in comparison of the

(a) Extract of a letter from Richmond in Yorkshire, dated the 21st instant.

—The snow began to fall the 15th, and, save a little intermission the next morning, hath continued falling ever since; and though we have a strong north-east wind, which drives the snow into hollow, sheltered places, yet in the middle of a plain field, into which I got with some difficulty this evening, to measure the depth of the snow, I found it to be 27 inches deep, very heavy, and close. If it had fallen light, and with little wind, it must have lain above a yard deep upon the plain ground, which is more by above one half than most people here have ever seen, and it still continues snowing.

numbers of those who had them in a favourable way. Bleeding moderately, and an emetic, at the first attack, commonly rendered the disease extremely favourable, and, except a gentle anodyne to abate the sense of soreness, or an emollient clyster, was almost the only medical assistance required.

A few had the malignant angina, together with the small-pox. These required a warm antiseptic regimen, and commonly did well. The intercurrent diseases were the *peripneumonia notha*, and slow remittent fevers, often attended with *apthæ*, and running out to a great length, especially if either copious evacuations on one hand, or a too warm regimen on the other, had disordered the usual procedures of nature.

Moderate evacuations, blisters, gentle diaphoretics, keeping the body soluble at the same time, appear the most likely methods of removing the disorders of the season, being mostly the produce of a *serosa colluvies*.

Observations on the Weather, &c. in February 1752.

Barometer:

Highest 30. 2.	Lowest 29. 4.
Greatest variation } in one day } 3. {	the 9th, from 29. 8. to 29. 5.
Common station 30. 0.	

Thermometer.

Highest 51, 24th inst. Wind S. E.
Lowest 38, 24th inst. Snow, cold. N. W..
Greatest variation in one day 5.
Common station 45.

The wind during this month kept generally betwixt the S. E. and N. W. points, seldom continuing in any one, two days together. As in the preceding month the quicksilver sunk unusually with a northerly, so it has kept up with a southerly wind in as remarkable a manner, though the cause has not hitherto appeared so evidently.

The weather has in general been inclined to fair, clear, and temperate, though interrupted with some smart frosts, heavy rains, snow, and hail; but these were of short duration.

The small-pox continued to be the principal epidemic of the season, though in general of a benign kind. Children, and young persons, unless the constitution is very unfavourable, get through it very well, and the height to which the weekly bills are swelled, ought to be considered in the present case as an argument of the frequency, not fatality of this distemper. For from what has occurred to the writer of these observations, as well as what he has been

Been able to learn from some of the oldest practitioners, this disease has seldom, if ever, been known to be more general, or so mild and favourable as it is at present.

The practice of inoculation seems to gain ground considerably, and is generally performed in the manner described in vol. xxi. p. 123. Could those who are employed in this affair be prevailed upon to communicate authentic accounts of their success, they would do an essential service to the public.

Observations on the Weather, &c. in March 1752.

Barometer.

Highest 30. $6\frac{1}{2}$, the 27th and 28th ult. Wind N. W. clear and cold.

Lowest 29. 3, the 15th, with storms of wind S. W.

Greatest variation in one day $4\frac{1}{2}$.

Common station about 30.

Thermometer.

Highest 55, 10th inst. Wind S. E.

Lowest 39, the 6th, frost. Wind N. E.

Greatest variation in one day 6, the 13th, from 50 to 44.

Common station 47.

The weather in this period has been variable and inconstant: the conclusion of the last month was fair, cold, and frosty; the fore part of this inclined to warm and fair; the middle wet and tempestuous; and the last inclined to cold, with storms of wind, rain, and hail. The diseases have been the small-pox chiefly, rheumatism, and of late a few remittent fevers, affecting the head violently at the first attack, and very early occasioning unfavourable appearances.

The small-pox continue to be mostly benign, often of the coherent kind, especially in adults, and a few have the confluent. In these the spitting is commonly very copious, and so fatiguing as to prevent the patient from enjoying any rest or quiet; occasioning an early tendency to a delirium, and hindering the swelling of the face. Under these circumstances, small doses of some warm anodyne, such as *theriac. And. & conf. Damocrat.* from gr. 15 to \mathfrak{zj} or \mathfrak{zss} at a dose, once in 6 hours, have afforded great relief, and rendered larger doses of a paregoric at night less necessary for some days; the spitting becomes less troublesome, the face swells, the pulse grows full yet soft, and the oppression, of which under this circumstance they often complain, is relieved. In the present constitution at least, it will perhaps be found true, from the most impartial and accurate observations, (and such only ought to be admitted into medical records) that the danger will be in proportion to the spitting, and that it is expedient to restrain this discharge, and to divert the flow.

flow of it to the skin, by small doses of opiates. It should be remembered, that this remark relates to the present constitution; and that it may not always hold good, that we should endeavour by warm anodynes to suppress a discharge, which has heretofore been considered as a peculiar advantage. It should only put us upon observing the *juvantia* & *ledentia*, with the utmost attention, and to act as reason and experience direct.

It seems likewise necessary to remark, that there is a possibility of occasioning great detriment to the patient, by purging too early in this distemper. If the disease is benign, and the crop of pustules not very large, no inconvenience seems likely to arise from waiting till they are in general dry, not only on the face and trunk, but even on the extremities. And it is not altogether improbable, but that some of those disorders proceed from this cause, which are intended to be shunned by early purging. 'Tis well known that the power of absorption seems to be increased after purging. If this be the case, while the body is covered by a putrid crust, or by any quantity of putrid moisture, a larger quantity must be received into the mass of blood, must render it acrid, and occasion hectic heats, or be deposited in particular collections, and form abscesses, boils, and other inconveniencies or distempers. And, notwithstanding the authority of some respectable names, it is not a matter out of doubt with some, how far purgatives may be beneficial in that stage of the distemper, wherein they have been so warmly recommended.

Observations on the Weather, &c. in April 1752.

Barometer.

Highest 30. 4. Lowest 29. 2, the 25th inst. Wind S. W. with rain and hail.
Greatest variation in one day 2.

Common station 30.

Thermometer.

Highest 56. 56. Lowest 42.
Greatest variation in one day 5.

Common station 51.

The weather, at the end of the last month was frosty, clear, and cold; at the beginning of this, it became more moderate, grew cold and wet towards the middle, and again cleared up towards the conclusion, with some sudden gusts of wind, and rain, and hail. But in general the weather, during this month, may be said to have been remarkably even, and from its sensible qualities not likely to give birth to any particular distemper.

The small-pox continued to be the principal epidemic during this period,
as

as it had been in the preceding months; during which time it attacked most of those who had not hitherto had the distemper, and is now spread into the suburbs, and the neighbouring villages, but still in a favourable way in general. Some have the confluent, a few the bleeding kind; but these are not very common, considering the number of those who are seized with it. After bleeding where it was indicated, and cleansing the stomach with an emetic at the first attack, mild cardiacs, with small doses of anodynes, succeeded much better than the cooling antiphlogistic regimen, which commonly occasioned languors, increased a troublesome, unavailing ptyalism, and retarded the eruption, and progress of maturation.

Several were seized with a remittent fever, accompanied with acute headaches, restlessness, and anxiety, a quick full pulse, without much thirst, which generally soon gave way to bleeding, emptying the first passages, and gentle diaphoretics.

THESE observations on the weather have now been carried on through all the seasons, and the principal changes taken notice of. Though the advantages resulting from them may yet be but small, a longer series may prove more fruitful. To the writer it appears, that not only a steady course of any kind of weather may produce particular diseases, but likewise very quick transitions from one extreme to another may be equally injurious; with this view he has noted not only the greatest ascent and descent of the quicksilver in his instruments, but likewise the greatest variations that have happened in the space of 24 hours, in any part of the month; and these circumstances he has placed as follows:

VIEW of the General State of the AIR for 1751.

		Barom.			Thermom.		
		Highest.	Low.	Var.	H.	L.	Var.
April	-	30.	29.1	.3	57	43	4
May	-	30.4	29.2	.3	58	47	5
June	-	30.3	29.6	.4	68	53	5
July	-	30.1	29.4	.6	65	59	3
August	-	30.3	29.4	.3	64	57	3
September	-	30.3	29.3	.6	62	50	6
October	-	30.4	29.4	.3	56	46	5
November	-	30.5	29.0	.4	54	42	8
December	-	30.4	29.5	.3	51	37	6
January	-	30.4	29.0	.2	51	42	4
February	-	30.2	29.4	.3	51	38	5
March	-	30.6 $\frac{1}{2}$	29.3	.4 $\frac{1}{2}$	55	39	6

And

And it may afford some satisfaction to the reader to observe, that, notwithstanding the daily complaints we hear from those about us, and the repetition of the same complaints that occur in the writings of some foreigners, our climate is more temperate, the extremes of heat and cold more confined, the transitions from one extremity to another more gradual, than could easily have been imagined; and more so, perhaps, than can be equalled in every respect by any country in Europe, of which we have any authentic memorials, as may perhaps on some future occasion be demonstrated.

From the preceding table it will appear, that during the last 12 months the mercury in the barometer never rose higher than 30 inches, $6\frac{1}{2}$ tenths; never subsided lower than 29° ; consequently, that its motion did not much exceed $1\frac{1}{2}$ inch in that time, nor more than 6 tenths of an inch in 24 hours.

The thermometer likewise discovers a more equal temperature, with respect to heat and cold, than might have been expected in a country where so many exclamations are daily vented against the inconstancy of the weather, and the irregularity of the seasons: the utmost ascent of the quicksilver was 68 degrees, the lowest descent 37 degrees; so that it only traversed in the several changes from spring to summer, from both to autumn and winter, about 32 degrees, and not more than 8 of these in 24 hours at any one time.

If we, therefore, compare this account with the most accurate we have of the weather in any other country, we shall perhaps find abundant cause to be satisfied with our own, in this, as well as in most other respects.

Observations on the Weather, &c. in May 1752.

Barometer.

Highest $30\frac{3}{10}$, the 11th. Wind E. Lowest $29\frac{4}{10}$.

Greatest variation in one day $\frac{3}{10}$.

Common station 29. 9.

Thermometer.

Highest 63. Lowest 49, 30th ult. Wind N.

Greatest variation in one day, from 55 to 61, the 13th. Wind N. E.

Common station 55.

The conclusion of the last month was wet, cloudy, cold, with high winds; the beginning of this was more temperate, the weather mostly fair and clear, with showers sometimes intervening, and continued so till towards the end of this month.

The mercury in both instruments has been remarkably steady, the season of the year considered; the sensible changes more moderate than usual; and if the article of small-pox had not swelled the weekly accounts considerably,

it

it would have appeared to have been, as in reality it was, a healthy time, scarce any thing like an epidemical disease occurring in this period.

Observations on the Weather, &c. in June 1752.

Barometer.

Highest $30 \frac{3}{10}$. Lowest $29 \frac{6}{10}$.
Greatest variation in one day $\frac{4}{10}$, viz. the 4th. Wind high, S. W.
yet it rose from 29.8 to 30.2.

Common station $29 \frac{9}{10}$.

Thermometer.

Highest 66 deg. Lowest 59.
Greatest variation in one day 5, the 11th, from 60 to 65. Wind W.
clear and calm.

Common station 61.

The conclusion of the last month was close, sultry, and wet; the fore-part of this was fair, serene, and warm. About the middle, the weather became more variable, and at length set in cloudy, wet, and somewhat cool, and so continues. The wind for the most part was southerly, and sometimes very high, which, together with the moisture of the air, made it cold to the sense, though, by experiment, the heat was equal and moderate.

The small-pox still continues in the neighbourhood of this city, not many escaping who have not had it before. This article, in the weekly bills, hath been very high, but seems now to be upon the decline: the mortality, however, ought not to be estimated by this scale, without taking into consideration the numbers who have it, and escape not only with life, but even favourably; witness the crowds of such whom we daily see in the streets, without any other vestige than the remaining redness of a distinct pock.

There is a circumstance of this disease which I have once seen, and which has fallen under the observation of several gentlemen, eminent in the profession, who related it to me, though I do not remember to have found it in any writer on the subject. Several children, who had the distemper in a very favourable manner, lost their speech, and became unable to stir or help themselves; and this without being reduced in flesh, or labouring under any discharges that might be supposed to weaken them in any such degree, so that it has much more the appearance of a palsy, than mere imbecillity, and affects the organs of speech as well as other instruments of motion. This disorder has likewise been observed to occur in such cases, chiefly, where the eruption has been attended with convulsions; and I do not remember to have heard of one instance in which this had not been the case.----This affection seems to be

more troublesome and alarming to those about the sick, than dangerous; for though it goes off slowly, yet all I have heard of at length have recovered perfectly. A perpetual blister betwixt the shoulders, gentle rhubarb purges, a proper diet, and the air, seemed the most serviceable remedies.

Observations on the Weather, &c. in July 1752.

Barometer.

Highest 30. 2, the 18th. Wind S. W. and much rain.

Lowest 29. 5, the 25th. Wind S. fair and clear.

Greatest variation in one day $\frac{2}{10}$.

Common station 29. 7.

Thermometer.

Highest 70 deg. the 13th. Fair, clear.

Lowest 60, very warm. Wind S. E.

Greatest variation in one day 7 deg. viz. from 63 to 70, the 13th.

Common station 63.

The whole of the preceding month may be said to have been wet, cloudy, and yet inclined to warm. The barometer stood most common at 29.7, or 8, which is what is meant by its common station; it never sunk or rose above two degrees in one day, which shews an equality, hardly to be expected while the wind shifts to every part of the compass, with sudden storms of heavy rain. One phenomenon was remarkable: It rained hard while the quicksilver stood very high; it was fair when at the lowest. This, however, proves no more, than that we are not yet acquainted with all the causes that affect this instrument. The thermometer, except on one particular day, was alike steady; it seldom varied above three degrees in 24 hours, and the quicksilver stood oftener at 62 or 3, than at any other point. The winds blew mostly from the southern or western points, and seldom very fresh.

Few acute diseases, except the small-pox, appeared this month. The article of fevers in the weekly bills was perhaps seldom ever lower. The number of those who died of the first-mentioned disease seems to be lessening; but the malignity rather seems to increase with the warmth of the weather, some instances having lately occurred of a very malignant confluent sort; considerable numbers however escape: and this year may be marked, in the annals of medicine, as one of the most remarkable constitutions that has happened in our memory, both for the frequency of this distemper, and its mildness; and it may also be taken notice of, that the weather has been at the same time unusually temperate with regard to heat, though in general wet and cloudy.

Children from one to three years old have, I believe, suffered more from
this

this distemper, during this constitution, than those of any other age, at least it has so fallen out under the writer's observation. Several instances he has known, of this age, when the load was not very large, the eruption kindly, the maturation at first very promising; but instead of ripening on the extremities, about the 10th or 11th, they continued crude and watery; the pulse quick, with great heat, delirium, restlessness, and difficulty of breathing; the tongue dry; the belly sometimes loose, with dark foetid stools, at other times disposed to costiveness. In this manner some have continued 17 or 18 days, insensibly wasting both in flesh and strength, in spite of every effort to assist them, and have then expired.

Observations on the Weather, &c. in August 1752.

Barometer.

Highest $30 \frac{2}{10}$. Lowest $29 \frac{1}{10}$.

Greatest variation in one day $\frac{2}{10}$.

Common station about 30.

Thermometer.

Highest 68 deg. 10th at night. Wind N.

Lowest 60, 16th. High wind at W.

Greatest variation in one day 4 degrees.

Common station 63.

The end of the last month was inclined to be wet, windy, and dark. This began fair, cloudy, and warm: about the middle it became fair, and clear, with some intervening showers, and so continued to the 25th. The wind was variable, seldom continuing more than two days in the same quarter, but kept generally S. W. The quicksilver in the barometer was unusually steady, and often kept high, with the wind at S. E. In the thermometer, except on one or two days, its motion was confined, the season of the year considered, within very narrow limits; the air having seldom been hot, or otherwise than warm, and often moist.

The small-pox, which was slowly decreasing last month, has continued, through the course of this, to grow less frequent, and the bills were less by 40 last week, than at the conclusion of the last month.

Fewer fevers have seldom been known at this season; which may be said in general to be very healthy.---Hypochondriac complaints are frequent; hæmorrhages from various parts, the hemoptoe especially are not uncommon; and such other complaints as arise from great laxity of the solids, and consequent increase of viscosity in the fluids.

Observations on the Weather, &c. in September 1752.

Barometer.

Highest $30 \frac{3}{16}$. Lowest $29 \frac{2}{16}$.Greatest variation in one day $\frac{6}{16}$, viz. the 26th ult. when it rose from $29 \frac{2}{16}$ to $29 \frac{8}{16}$. High wind at N. W.Common station about $29 \frac{9}{16}$.

Thermometer.

Highest 64 deg. the 19th. Wind South.

Lowest 54, the 27th ult. W. N. W.

Greatest variation in one day 6 deg. the same day.

Common station 60 degrees.

The last month concluded stormy, wet, and cold; this began more moderately, though somewhat windy, dark, and cold: towards the middle the weather became fair, clear, and warm; and, except a few windy days about the 22d, has been moderate, and inclined to fair.

The small-pox has almost totally disappeared in the city; in the suburbs, and extreme parts of the town, it is much less frequent than it has been; in some of the neighbouring villages it yet subsists, though in none of them, as far as I can learn, with any remarkable frequency.

Many have been seized with pains about the region of the stomach, attended with sickness, vomiting of green porraceous bile, and costiveness. Shiverings, lassitude, and pains in the limbs, often accompanied the first attack; in some, the least attempt to raise the head from the pillow, produced a tendency to vomiting. The heat in most was moderate; the pulse small, and seldom quick. Small doses of the saline mixture, made quite neutral with absorbents, and a few drops of *Tinct. Thebaic.* commonly took off the disposition to vomiting in a short time, and a dose of rhubarb, or hiera picra, then was retained, and gave effectual relief.

Emetics, though of the mildest kind, seemed not to be of the use one might have expected. The pain often seemed to be increased afterwards; the tendency to vomiting became more continual; the lassitude, restlessness, and proneness to vomit, upon motion, more troublesome; and the difficulty of procuring the necessary discharges downwards, increased.

Observations on the Weather, &c. in October 1752.

Barometer.

Highest $30 \frac{4}{10} \frac{1}{2}$. Lowest $29 \frac{5}{10}$.

Greatest variation in one day $\frac{2}{10}$. viz.

Common station about $29 \frac{2}{10}$.

Thermometer.

Highest 62 deg. Lowest 50 degrees.

Greatest variation in one day 6 degrees.

Common station 56 degrees.

During this month, the weather has been less variable, than for the same length of time it has been since the year commenced. Excepting two or three showers, it has been altogether fair, mostly sunshine, and little wind; and though in and about the city there have been very thick fogs, morning and evening, during the two last weeks, now and then continuing all day, yet most commonly they broke away before noon, and left us the clearest sky, for the greatest length of time together, we have had this summer.---The warmth and equal temperature of the air, have been not less remarkable than the dryness; and though the wind has been chiefly N. E. yet the air was neither so cold or piercing, as is commonly felt when it blows from this quarter. Should these remarks afford no other advantage, yet to have it in our power to compare, and with some degree of exactness, the past seasons with the present, will afford satisfaction; and if the reader looks back to the yearly table (See April 1752, p. 95) he may there at one view see how much the last differed from the present, both in respect to coldness and wet. It may also be proper again to explain what is meant by the words *common station*; which are not intended to signify the mean height betwixt the highest ascent, or lowest descent of the quicksilver, in either instrument, but to denote that it oftener stood about this point, than at any other.

The town in general has been healthy, as from so equal a season might be expected; some inflammatory disorders of the bowels have occurred, but oftener occasioned by errors in diet (especially the eating of vast quantities of walnuts, which are uncommonly plentiful) than by any other cause.

And here it may not be improper to observe, that this nut seems entirely indigestible in the stomach, unless it be first well chewed, and by the teeth ground down as fine as it ought to be, to become nutritious. Without this care, it breaks under the teeth into small angular bits, often with sharp edges, capable of hurting very tender bowels; and by this means, and not by any acrid irritating quality they are naturally possessed of, while recent, occasioning pains,

pains, sometimes fluxes, or spasmodic constrictions of the guts, and obstinate costiveness.

And it has happened in many such instances, that after the walnuts thus hastily devoured, have laid in the body many days, they have been voided undigested and unaltered, to appearance at least: so that there is great reason to suspect, that as the nuts are swallowed, so they pass the stomach and intestines, no power being therein lodged, capable of reducing them into the form of chyle. It may however so happen that they may become highly injurious, if long retained in the body, not only from their form, as hath been mentioned above, but likewise from a rancid, caustic acrimony, which the oil of this nut seems capable of acquiring, by digestion, as well as most other oils of the like nature and extraction; which from the mildest and least irritating substances become, merely by being exposed to proper degrees of heat, as acrid and as stimulant as most in nature; so that if a spasm is once occasioned in the guts by their figure, and costiveness ensues, they every moment acquire new properties, which render them capable of producing very mischievous consequences. To prevent these, it is therefore best to eat but few at a time, to grind them very well, and then they may be used with as much safety, by most people, as any other kind of fruit.

Observations on the Weather, &c. in November 1752.

Barometer.

Highest $30\frac{5}{16}\frac{1}{2}$. Lowest $29\frac{2}{16}$. viz. 9th ult. High wind S. S. W.
Greatest variation in one day $\frac{6}{16}$, viz. 22d, from 30.2 to 29.6; thick fog, and wind from N. W. to S. S. W.

Common station about $30\frac{2}{16}\frac{1}{2}$.

Thermometer.

Highest 57 deg. Lowest 46 degrees.
Greatest variation in one day 6 degrees.

Common station 52 degrees.

In this month the weather has been more variable than in some of the preceding; in the first part, the air was mostly fair, clear, and frosty; with thick fogs morning and nights in the city. Towards the middle of the month, it became more dark and cloudy, with high winds at S. S. W. and a few showers; concluding moist and foggy.

The mercury in the barometer often stood at an uncommon height, even with the winds at S. S. W. when it generally subsides very low. In the thermometer it was more variable, though not more so than is usual at this season.

So that upon the whole the weather may be said to have been as temperate in this, the time of the year considered, as many of the preceding months.

The measles have made their appearance in some parts of the town, but are not hitherto accompanied with any uncommon or very dangerous symptom. The small-pox have not ceased, nor the hooping-cough altogether, yet these are less frequent than they have been.

Rheumatisms, and an insidious kind of rheumatic fever, have appeared this month more frequently than in the preceding. This fever is at first perceived by slight shiverings, acute pains in the limbs, shifting with great quickness from part to part: the heat not immoderate; the pulse, for many days, not much quicker than in time of health; the belly rather costive; and the urine uncommonly thick and clay-coloured. After several treacherous remissions, the head is at length attacked, a delirium, watchfulness, or *coma vigil*, and spasms of every part succeed, which end unhappily.---Whatever evacuations seem necessary, must be directed early; whatever weakens, must in the progress of the disease be avoided; and stimulants applied with moderation. Sometimes *apthæ*, of a benign aspect, happily terminate the disease. If a dark-coloured *ichor* discolours the lips or tongue, the event is too often fatal.

Observations on the Weather, &c. in January 1753.

Barometer.

Highest 30 $\frac{4}{16}$.

Lowest 29, the 10th inst. with rainy tempestuous weather, wind W.S.W.

Greatest variation in one day $\frac{6}{16}$.

Common station 30 $\frac{1}{16}$.

Thermometer.

Highest 49 degrees.

Lowest 38 deg. 24th, hard frost. Wind N.

Common station 43 degrees.

Greatest variation in one day 5 degrees.

Thermometer in the open air, in London.

Highest 43.

Lowest 32.

Greatest variation between any two mornings, 7 degrees.

The weather in this month, though sometimes variable, has been mostly inclined to cold, fair, and frosty, and in the city, a few days excepted, very dark. The wind was often northerly, and when from the S. and S. W. points, generally blustering, with cold rain or sleet.

The variations were not however so sudden, or sensible, as to affect the general health in a very eminent degree; except in chronic disorders of the
breast,

breast, as asthmias, peripneumonies, and *defluxions*, which were very frequent about the beginning of the month, and were fatal to many.

Some slow continual fevers have likewise appeared, and terminated variously, some with benign *apthæ*, which appeared critical, or else with miliary eruptions, not in the neck and breast only, but over the whole body.

This kind of fever seldom admits of any evacuation, after the disease is once confirmed, except by blisters, and moderate sweats: and these, if profuse, are mostly prejudicial, and the former almost always so, when applied very early, as is too much the general practice of those, who, by a pernicious custom, are commonly the first consulted; and who seldom fail to advise bleeding and blistering almost in the same breath, and such medicines, as they suppose will promote the most plentiful sweats: so that in two or three days, it often happens that the sick have undergone every species of pharmaceutical direction, and are then surrendered, unnecessarily enfeebled, into the hands of the physician; who can only lament the loss of those forces, which he sees himself deprived of, to combat the disease; and submit to a tedious attendance, and a doubtful prognostic, than which scarce any thing is so disagreeable to the rational and humane practitioner.

Observations on the Weather, &c. in February 1753.

Barometer.

Highest $30 \frac{4}{10}$.

Lowest $29 \frac{1}{10}$.

Greatest variation in one day $\frac{4}{10}$.

Common station $29 \frac{8}{10}$.

Thermometer within doors.

Highest 52 degrees.

Lowest 38 deg. 11th, hard frost. Wind N. E. Thick fog.

Common station 45 degrees.

Greatest variation in one day 5 degrees.

Thermometer without doors, at 8 in the morning.

Highest 51.

Lowest 29, the 11th ult.

Greatest variation in one day 10 deg. viz. the 13th, from 35 to 45.

Common station 43.

The last month concluded frosty, dark, and very cold; this began with frost, sleet, or snow: towards the middle, the weather became wet and more temperate, and so continued, with some short intervals of fair and clear weather, to the end of this account. The winds were variable, and sometimes blustering, from the S. S. W.; as they were cold, with dark fogs, from the N. and N. E.

The fevers mentioned in the last month occurred often in this, and proved fatal to several. Rheumatisms were also common, and especially among children from 4 to 8 or 10 years old: these young subjects generally were seized with a pain about the neck, back of the head, or the shoulders; from hence it often shifted to the hands and feet, and knees, and plainly discovered its nature by the swellings it produced: the fever attending it had regular exacerbations in the evening, followed by moderate sweats and freedom from pain in the morning; which interval continued with a calm quiet pulse till 4 or 5 in the afternoon, when the symptoms again appeared. In some young subjects, where evacuations were used too freely, either by bleeding or purging, the disorder proved suddenly and unexpectedly fatal; the pains of the head became violent, either a convulsion, or hemiplegia, or both, succeeded, and death soon followed. A decoction of the bark, with rhubarb sufficient to keep the belly open, given in small doses, and often, especially in the intervals, commonly removed the disorder in a few days with great certainty; whilst bleeding, purging, and diaphoretics, often rendered the distemper tedious, and sometimes, as is observed above, fatal.---Some ancient people died suddenly, soon after the weather, from very cold and dry, became wet and temperate; and some instances occurred at this time, as they have done heretofore in the like cases, that have repeatedly induced me to reflect on the promiscuous use of bleeding in these sudden emergencies, with some anxiety. For it seems very probable, that the cases of persons in years, who are seized with apoplexies, sudden faintings, or other symptoms of speedy dissolution, in which bleeding can be of any use, are very few. And

That cases of this nature, in which bleeding is certainly pernicious, and deprives the unhappy person of any chance for a recovery, are very numerous.

It would carry me beyond the limits I have any right to ask for, and into a series of reflections not suited to every reader's taste, to endeavour to fix the proper indications for bleeding: but what is above suggested will, I hope, induce every practitioner to think twice, before he orders this operation to be performed; because in many cases, if the patient should survive it, either a universal palsy succeeds, and the patient dies in a short time; or he is seized with a partial one, which perhaps attends him to his grave. Common usage precipitates too many into this practice; and of the few who think at all, it is not every one who has resolution enough not to be influenced by so current an opinion.

Observations on the Weather, &c. in March 1753.

Barometer.

Higheft $30 \frac{5}{16}$.Loweft $29 \frac{6}{16}$.Greateft variation in one day $\frac{4}{16}$.

Common ftation 30.

Thermometer within doors.

Higheft 54 deg.

Loweft 43 deg.

Common ftation 48 degrees.

Greateft variation in one day 6 degrees.

Thermometer without doors.

Higheft 55 deg.

Loweft 32 deg.

Greateft variation in one day 8 degrees, viz. the 14th, from 42 to 50. Wind S. W.

Common ftation 40.

The mercury in the barometer, during this inconstant month, has ranged within narrower bounds than ufual, and its tranfitions have been more confined. In the thermometer, the variations have not been very remarkable. The former part of this month, as well as the conclufion of the laft, the weather was moftly fair, clear, and cold, the wind generally at E. or N. E.; towards the middle it fhifted to the S.W. blowing frefh with gentle fhowers and temperate warmth, and fo continued to the end of the month.

Disorders of the breaft were frequent; feveral young fanguine perfons, efpecially, had fpuittings of blood, without much pain in the breaft, or difficulty of breathing: moderate evacuations, by bleeding and purging, with fmall dofes of nitre and the mildeft balsamics, foon relieved them. About the middle of the month divers complained of unufual head-achs, attended with feverifh fymptoms, which were often very alarming at the firft attack, but foon fubfided. They complained firft of pain or ftiffnefs in the neck, with darting pains about the temples, and fo acute as oftentimes to raife the pulfe and heat confiderably. The external parts of the head grew fore; and to fuch a degree as it was painful to reft it on the pillow. Now and then the pains remitted an hour or two, and again returned with their former violence; but the whole abated in three or four days, and gradually wore off, leaving, however, a fort of uneafinefs about the head, which the patients commonly compared to a cap of lead, or fome heavy fubftance inclofing it. Moderate bleeding or cupping, blifters, nitre joined with volatiles in fmall dofes, and given often, were ordered to feveral under thefe complaints, with advantage.

Palfies alfo were not uncommon, and afforded fome frefh instances of the difadvantages

disadvantages of indiscriminate bleeding. The writer of these remarks is no enemy to this operation in general ; but in diseases, where every means that the physician employs are such as invigorate, to begin the cure by deducting from that force which we want to increase, certainly requires some consideration.--- There may be cases, it is allowed, where bleeding in palsies may be of use ; but that it is generally so, is denied ; and cool, unprejudiced observation will, I doubt not, lead to the same opinion. And it is of the more consequence to deliberate maturely on this operation in the case before us, in as much as the remedy in question is not of the unimportant kind : if it is not proper, it is very improper, and costs the patient much time to recover it, and the physician not a little uneasiness, to see his utmost efforts avail much less, than where bleeding has been omitted.

Observations on the Weather, &c. in April 1753.

Barometer.

Highest $30\frac{2}{8}$. Lowest $29\frac{2}{8}$.
Greatest variation in one day $\frac{4}{8}$.
Common station $29\frac{7}{8}$.

Thermometer within doors.

Highest 59 deg. Lowest 41 deg.
Common station 52 degrees.
Greatest variation in one day 6 degrees.

Thermometer without doors.

Highest 60 deg. Lowest 39 deg.
Common station 45.
Greatest variation in one day 10 degrees.

The weather, at the end of the last month, and the beginning of this, was generally fair, clear, and temperate, though with intervening showers, sometimes accompanied with hail. Towards the middle it became more disposed to be wet, dark, and cold, but grew uncommonly warm, serene, and pleasant, for a few days, about the 20th ; after which it again became cool, with showers almost daily. The wind has generally been S. S. W. or west ; a few days it stood N. E. and sometimes N. W. Upon the whole, the weather has been seasonable ; the advances to warmth very slow and uniform : and, in this place, few remember to have observed a spring, wherein the progress from cold to warm, or rather temperate, which it has never yet exceeded long together, hath been more natural.

As the weather has been thus uncommonly seasonable, the diseases have been few, and the acute ones less violent.---Coughs with a remarkable hoarseness,

ness, some straitness of the breath, and, in some, attended with a copious expectoration, have been frequent during this month; likewise the fore-throat, attended with ulcers, but generally mild, unless where copious bleeding, purgatives, and nitre, had made it otherwise. Fewer spring-fevers have occurred than I have ever known; and these, commonly, by moderate evacuations, soon became regular intermittents, and early gave way to the bark.

Observations on the Weather, &c. in May 1753.

Barometer.

Highest $30\frac{5}{16}$. Lowest $29\frac{4}{16}$.
 Greatest variation in one day $\frac{2}{16}$.
 Common station $30\frac{1}{16}$.

Thermometer within doors.

Highest 61 deg. Lowest 50 deg.
 Greatest variation in one day 3 degrees.
 Common station 44 degrees.

The weather in this month has been less variable than is usual at this season: the mercury in the barometer kept very high for the most part, even with the wind at S. W. In the thermometer, its motions have been confined to narrow limits, the time of year considered. During the whole spring, the progress from cold to temperate and warm, hath been the most gradual and regular that most people remember; and the transitions from one extreme to the other very inconsiderable. For which reasons the year has been thus far healthy, the produce of the earth abundant, and the prospect of still greater abundance very promising.

Nothing like an epidemic has appeared; and consumptions, the common spring disease, have not been so numerous as in some preceding years. Palsies and apoplexies were frequent about the beginning and middle of the month, and some hæmorrhages towards the conclusion.

A root, of which the Chinese have long been extravagantly fond, has of late, I find, been recommended in this place; and merits the greater consideration, as it is one of the products of our own colonies in North America. The name of this drug is *Ginseng*; the manner of its discovery, and other circumstances of its natural history, would take up too much room: but give me leave to say, that some considerable parcels of the root have been sent to China, and disposed of to great advantage; that this advantage would still have been greater, had those who gather the root, collected it at a proper season, and cured it in the Chinese manner; and that it has been tried in many cases here, yet not so fully as to establish its character in any particular disease. In tedious

dious chronic coughs incident to people in years, a decoction of it has been of service; and in such disorders as attend advancing years, where the solids are too inactive, the fluids viscid and acrimonious, it seems to promise considerable benefit, if used in moderate doses, and long continued. Time will, perhaps, discover its proper effects; and, as it consists of a mild, lubricating mucilage, joined with some degree of aromatic warmth, it may be tried in such disorders with great safety. One drachm and a half, boiled in four ounces of water, in a close vessel, and slow heat, about half an hour, will be a proper mean dose; or it may be given in powder to half a drachm or two scruples. Upon the whole, though it does not seem entitled to even a moderate share of those virtues that are romantically ascribed to it by the Chinese (*a*), yet is it very well worthy the attention of the faculty, and promises fair to be a more useful and efficacious medicine, than many now kept in the shops, as the Sarfa China, and some others; and a medicine too, of which we may always depend on a constant supply from our own plantations.

Observations on the Weather, &c. in June 1753.

Barometer.

Highest $30\frac{3}{8}$. Lowest $29\frac{7}{8}$.
Greatest variation in one day $\frac{2}{8}$.
Common station $30\frac{1}{8}$.

Thermometer.

Highest 71 deg. Lowest 56 deg.
Greatest variation in one day 11 degrees, the 9th ult. from 59 to 70.
Common station 66 degrees.

The last month concluded dry, fair, and warm; this began in the same manner, and continued so till about the 20th, the heat daily increasing. About this time the air was cooled by some moderate showers; storms of hail fell in some parts, and in the villages about London, and did considerable damage; very little fell in the city. The wind kept generally N. N. E. or N. W.

The motions of the quicksilver in the barometer, were confined within very narrow limits; in the thermometer, the contrary happened, the transitions in this instrument having been the most sudden and expansive, that have lately been observed. About the beginning of the month several were seized with remittent fevers, which, after moderate bleeding, an emetic, and emptying the first passages, either went off in a few days, or became intermittent, and soon yielded to the cortex.

(*a*) Du Halde's hist. fol. vol. i. 322. ii. 217.

Several were likewise seized with a disorder in the bowels in the nature of a nephritic cholic, with bilious vomitings, obstinate costiveness, and pain about the region of the kidneys, and sometimes a dysury, though without any certain indication of gravel, or that the parts were affected any other way than by a spasmodic constriction from consent of parts.

Observations on the Weather, &c. in July 1753.

Barometer.

Highest $30\frac{3}{16}$. Lowest $29\frac{5}{16}$.
 Greatest variation in one day $\frac{3}{16}$.
 Common station $29\frac{9}{16}$.

Thermometer.

Highest 72 deg. viz. the 7th instant; and without doors, in a cool shade, 80.
 Lowest 57 deg.
 Greatest variation in one day 5 degrees.
 Common station 64 degrees.

The last month concluded fair, cloudy, and temperate: this began with some hot days, which, towards the middle, were succeeded by some refreshing showers: after which the weather continued for the most part fair, sometimes cloudy and cool, at others hot and sultry. The 7th was a hotter day than any in the two last years, in this place.

Apoplexies have been more than commonly frequent and fatal: even persons much below the meridian of life, have been suddenly snatched off by this distemper. Some fevers of the low depressed kind have appeared; many have been seized with inflammations of the bowels; and, in some of the neighbouring villages, the fore-throat, attended with ulcers, has appeared in divers families.

The frequency of apoplexies has furnished some fresh opportunities of observing the effects of bleeding in this disease, and strengthened the writer's opinion, that this evacuation is far from being always advantageous in this distemper: on the contrary, he has seen instances wherein he thinks it has been attended with the worst consequences.

Observations on the Weather, &c. in August 1753.

Barometer.

Highest $30\frac{3}{16}$. Lowest $29\frac{3}{16}$.
 Greatest variation in one day $\frac{3}{16}$.
 Common station $29\frac{9}{16}$.

Thermometer.

Thermometer.

Highest 66 deg. Lowest 60 deg.

Greatest variation in one day 5 degrees.

Common station 63 degrees.

The conclusion of the last month, and beginning of the present, were fair and temperate; towards the middle, the weather became wet, cloudy, and cool, with high winds at S.W.; about the 20th it became fair, clear, and warm, and continued so. The wind was variable, often shifting to opposite points the same day: it kept northerly for several days, but for the most part S. W. or S. E. The quicksilver in neither of the instruments, had any remarkable motion; whether it rose or fell, it was slowly, nor were the transitions from heat to cold, or the contrary, sudden or very considerable.

Many, during this month, have complained of disorders in the head, before the rains, about the middle of the month especially. Some had a dizziness to such a degree as to render it almost dangerous to walk abroad; others had acute pains affecting one part of the head only, as the forehead, or down one side, with great languors, sickness, and a quick small pulse: in several of these, after a few days, the disorder became intermittent, and was easily removed by the bark. And most of the acute diseases that have occurred in this period, have discovered a tendency this way; the head being very much afflicted during the paroxysm, not so much with violent pain, as with great confusion and dizziness, so far as to be unable to raise it from the pillow without suffering greatly. Bleeding moderately at first, with an emetic as soon as convenient, the saline draughts during the paroxysm, and the bark in substance given plentifully in the intervals, soon removed the complaints in many instances. Blisters gave no relief, but most commonly brought on very violent stranguries, which seems to be their usual effect in summer and in autumnal diseases, more than in those of the spring.

Observations on the Weather, &c. in September 1753.

Barometer.

Highest $30\frac{3}{16}$. Lowest $29\frac{9}{16}$.

Greatest variation in one day $\frac{3}{16}$.

Common station $30\frac{1}{16}$.

Thermometer.

Highest 66 deg.

Lowest 56 deg.

Greatest variation in one day 7 degrees, viz. the 25th, when it sunk from 63 to 56, the only day in the whole month in which it either sunk so low, or varied above half so much.

Common station 63 degrees.

From

From the 26th of the last month, to the 25th of this inclusive, there have been but five or six days on which any rain has fallen, and on most of them very inconsiderable quantities; the heat has, at the same time, been unusual in this climate, with the most settled drought that has of late years been observed. For though the wind has blown, in this period, almost from every point of the compass, yet the barometer has stood motionless at 30 inches, with the wind at S. E. for days together; a phænomenon very rarely observed, and an indication of the most uncommon propensity to dryness.

From this state of the weather, fruits of every kind this country affords, have been ripened to the greatest perfection; and, if the wines of our own vineyards are at any time to be drank without prejudice, for this seems to be the most we can expect in this country, the wines of this year's growth stand the fairest chance for it. But, at the same time that the dry hot weather has had this effect with regard to fruits, it has burnt up the herbage in the neighbourhood of London altogether, except in the marshes, and very low meadows; on the higher grounds scarce the least appearance of verdure remains; so that with the withered sun-burnt aspect of the country about us, and the clouds of dust that are raised by the carriages, &c. in every avenue to this metropolis, we resemble the scorched Campagna, rather than the verdant environs of London.

Bilious cholics, inflammations of the bowels, remittent fevers, with violent head-achs, vomitings, restlessness, faintings, high-coloured urine, and bilious stools, become more frequent, but not very fatal; the patients bear moderate bleeding well, gentle purgatives of the saline kind, and plentiful diluents: blisters are seldom indicated; when applied, they are often injurious, and often bring on unconquerable stranguries, to which the sick are many of them prone, this present season, where no blisters have been applied.---And the writer thinks he has oftener than in one season found, that blisters, after hot dry summers, are injurious in common, and perhaps for the very reasons that render them beneficial, nay absolutely necessary, in most kinds of vernal fevers.

In the present remittent fevers, the sick are disposed to copious sweats, which weaken but afford no relief. Every plentiful evacuation sinks them considerably, and especially if the disease is advanced a few days; which is mentioned to guard against the imprudent, indiscriminate use of a celebrated powder, long since discarded from rational practice, on account of its danger and uncertainty, and of the pernicious effects whereof the writer has lately been a witness, though administered in a much smaller dose than is commonly given, and under circumstances the most encouraging to hope for advantage from it.

Observations on the Weather, &c. in October 1753.

Barometer.

Highest $30\frac{3}{16}$. Lowest $29\frac{5}{16}$.

Greatest variation in one day $\frac{5}{16}$.

Common station 29.

Thermometer.

Highest 64 deg. Lowest 52 deg.

Greatest variation in one day 5 degrees.

Common station 59 degrees.

The weather in this month, though more variable than in the preceding, has for the most part been mild and temperate, even with the wind at N.E. about which point and the N. it has kept for some time. There have been a few showery days, but in general the weather has been fair and cloudy, with some heavy mists.

About the beginning of the month several were attacked with slow remitting and dangerous fevers; which still continue to affect divers. The manner of the attack was various: some were attended with a thrilling coldness, with very little heat intervening, either night or day, during three or four days; and even, after they were confined to their beds, a slight, though almost constant rigor attended them most part of the day, till at length an uneasy heat took its place, and continued without intermission many days. But this was not the case in all: the beginning was more sensibly felt by several; the rigor more violent and of shorter continuance; the succeeding heat, though more intense, of a shorter duration; and the concomitant symptoms the more natural. Persons of a fresh florid habit were generally seized in this manner, and mostly recovered; the disease either speedily terminating in an intermitent, or decreasing about the 14th with a thick lateritious sediment: but such as were of a squalid, or pale swarthy complexion, and were seized with this fever, were attacked in the manner first described: the beginning was obscure, the patient often went abroad, with chilling rigors, many days, and applied for help when the disease was advanced to such a period, as to admit of very little either from art or nature. The fresh and sanguine bore bleeding repeatedly, to advantage; the head-ach, restlessness, and heat, often abating after it. But the others did not receive the like benefit: a moderately warm and cardiac regimen; keeping the sick from profuse sweats, or any weakening evacuation; supplying thin diluting liquors often, and in small quantities, seemed to afford the greatest relief.---Rheumatisms have been frequent in this month, as is common at this season, and probably as much owing to a want of accommodating the cloathing to it, as to the variableness of the weather.

Observations on the Weather, &c. in November 1753.

Barometer.

Highest $30\frac{3}{16}$. Lowest $29\frac{4}{16}$.Greatest variation in one day $\frac{5}{16}$.Common station $29\frac{8}{16}$.

Thermometer.

Highest 58 deg. Lowest 45 deg.

Common station 49 degrees.

Greatest variation in one day 7 degrees.

The weather in this month for the most part has been cloudy, cold, and fair, with sharp frosts, but of no long continuance, and interrupted with cold rain; the wind frequently at N. W.

The same kind of fever as mentioned in my former, has continued to shew itself during this month, and has terminated fatally in many instances, and chiefly, perhaps, from slower and imperceptible approaches. Often has it affected the sick great part of a week before they have been induced to seek any relief, when the moments of affording it effectually were passed. Copious evacuations of any kind were observed to be injurious; the sick were not often disposed to any, except profuse sweats, which were never found, that I know of, relieving.

Disorders of the bowels were frequent, in some with obstinate costiveness, with a diarrhoea in others, and generally yielded to the known methods.

Observations on the Weather, &c. in December 1753.

Barometer.

Highest 30 inch. 4 deg. Lowest 29 inch. 22 deg.

Greatest variation in one day 7 deg.

Common station 29 inch. 8 deg.

Thermometer within doors.

Highest 58 deg. Lowest 40 deg.

Greatest variation in one day 7 deg.

Common station 47 deg.

Thermometer without doors.

Highest 55 deg. the 22d inst. Lowest 29 deg. the 8th.

Greatest variation in one day 10 deg. viz. the 12th, from 40 to 50.

The last month concluded with hard frost, the weather very cold, the wind

wind N. or N. W. The beginning of this month likewise was cold and frosty, but often dark, thick, hazy weather. About the 10th we had some snow, but this was soon carried off by warm rain, the wind shifting suddenly from N. E. to S. E. and S. W. where it continued to the 25th, the weather being uncommonly warm, though dark and showery. Upon the whole, we have had greater vicissitudes, and more sudden transitions from cold and dry to warm and moist, in this month, than has happened in any one for a considerable time past.

About the beginning of the month, during the sharp frost, several were seized with the small-pox, of a dangerous kind. The pustules appeared in several on the second day, and without much previous indisposition. The fever of eruption was far from being violent, and the pulse often continued as slow as in perfect health, and much smaller till the 4th or 5th day from the eruption, the sick in the main delirious in the night, and no way abating as the pyralism, which was in many cases profuse, and boded danger, came on. About the 7th the pulse became more quick, but not more strong; heat, restlessness, and delirium increased, and if the patient survived the 11th, it was often with great difficulty, and generally to undergo fresh dangers from the secondary fever; but a peripneumony proved fatal to several about the eleventh.

The pustules, instead of filling with a kindly yellowish matter, or appearing of this colour externally, were, in all that I saw, of a pale cream-coloured aspect, running into one another on the face, with here and there, both on the face and limbs, small mortified crusts, and the whole aspect as if covered with a wetted parchment.

The causes that produced the slow, treacherous, remittent fever, mentioned in a preceding account, seem to have produced the like unfavourable disposition of the habit in this. The attack in both was not alarming; the progress slow and fallacious; the approach of the crisis terrible, and too often fatal.---However, the disease is by no means general; many of those who have it, 'tis true, have it in a pretty severe manner, yet many escape. A decoction of the Cortex, with small doses of Conf. Damocrat. viz. 10, 15, to 20 gr. given in the languid state, has been of service in some cases; exchanging this regimen for a mild, demulcent, yet moderately cordial regimen, as the disease advanced.

A case of an unusual nature, the subject considered, has probably occurred to many practitioners within this month or six weeks. It appears at least unusual to the writer, and he therefore mentions it. He has been called to several children, and to none much above seven years of age, and girls chiefly, who have had the jaundice. He has heard from others, that the like cases had occurred to them. The writer found that a grain, or gr. 1/3 of Calomel, in a pill, with Tereb. q. f. every night, and a few spoonfuls of the saline mixture two

or three times a day, soon took off the yellowness, costiveness, and high-coloured urine; and a tea-spoonful of the Vin. Chalybeat. in chamomile-tea, restored their appetite and vivacity, which were always greatly affected, and seemingly more than even in adults.

Observations on the Weather, &c. in January 1754.

Barometer.

Highest $30\frac{5}{16}$. Lowest 29.

Greatest variation in one day $\frac{5}{16}$.

Common station $29\frac{8}{16}$.

Thermometer within doors.

Highest 55 deg. Lowest 40 deg.

Greatest variation in one day 5 deg.

Common station 45 deg.

Thermometer without doors.

Highest 48. Lowest 25.

Greatest variation in 24 hours 12 deg.

Common station 40 deg.

The last month ended fair, frosty, cloudy, and very cold; wind N.E. This began in the same manner; but the wind suddenly shifting to the S.W. the weather became less cold, but still inclined to frosty. About the middle we had some heavy rains, the cold moderate, and the weather continued variable till towards the end, without any remarkable excess in any respect.

Two singular phænomena appeared in the barometer in the course of this month, viz. about the 8th the quicksilver stood at 29.2, the wind northerly and fair. In common, when it stands so low we seldom fail of heavy rains, high winds, or snow; but none of these happened in the neighbourhood of this place; nor had we any accounts of deep snows or much rain in the north about this time; though I have never known the like circumstance happen without one or other of them falling plentifully to the northward.---The other phænomenon was the reverse to this. While the quicksilver stood several days together at 30.5, we had southerly winds, with rain, and the weather temperate. It is difficult to account for this, unless we suppose a current of wind from the N. or N.E. to have passed above the southern stream, and in a greater quantity.

The sudden transitions in the former month, and the variable temperature of the present, seemed to render acute diseases, for a time, more frequent and fatal. Fevers of the kind before mentioned continued; plentiful bleeding almost always brought on very alarming symptoms. It seemed, however, necessary

cessary to bleed moderately once, and sometimes, by cupping, to mitigate the head-ach, of which all the patients complained, some more some less. Blisters applied early increased the heat; and, if a sweating regimen was pursued, about the seventh or eighth day small red irregular *stigmata*, not round, as regular *petechiæ*, shewed themselves about the neck, breast, and arms, in great numbers, appearing just as if an eruption was about to follow; but they never rose above the surface of the skin.---Avoiding all immoderate evacuations; keeping the patient moderately covered; supporting his strength with proper liquids, without loading him with too much of them; promoting the circulation gently with the milder diaphoretics; and applying blisters, successively, as the falling pulse seemed to indicate their necessity, were the means of conducting some, who had this species of fever, through very imminent dangers: under which circumstances the discharges from the blisters seemed to be of singular advantage; for it happened, in divers instances, that with the common dressings only, blisters on the arms, where they are rather more readily disposed to heal in common than in some parts of the body, have kept open a week or ten days, nay, in one case, a fortnight, the matter being often at first thin and sanious, but becoming gradually laudable and plentiful.

Rheumatisms were also frequent about the breaking up of the frost, and the muscles of the thorax being in some cases affected, made it difficult to distinguish in what degree the internal parts likewise suffered; which nevertheless is a circumstance of great moment, as the method which would be the most likely to remove a genuine inflammation of the lungs or pleura, would often increase a rheumatic affection of the muscles concerned in respiration, and bring on that very disease which it was intended to remove, *viz.* an inflammation of the lungs, for want of a just dilatation of the thorax. This, however, is not designed to prevent bleeding in the above-mentioned cases, but as a caution to some, who may have been taught to think, that copious bleeding is indicated, whenever a patient complains of pain in any part of the region of the thorax.

Observations on the Weather, &c. in February 1754.

Barometer.

Highest $30\frac{6}{16}$. Lowest $29\frac{5}{16}$.

Greatest variation in one day $\frac{1}{16}$.

Common station $30\frac{2}{16}$.

Thermometer without doors.

Highest 48, the 13th instant.

Lowest 25, the 6th and 7th. Severe frost.

Greatest variation in one day 13 deg. between the 1st and 2d inst.

when the quicksilver rose from 27 to 40 deg.

The

The frost, which began about the 26th of the preceding month, became intense in a few days; and continued till the 9th, when it broke up with a sudden, but a very cold thaw, with fleet and heavy cold rains. After this the weather became more temperate, the mornings frosty and sharp, but the air in the day commonly serene, seasonable, and fair, and so continued to the 26th.

The quicksilver in the barometer has kept, during this changeable weather, within very confined limits, the season considered. In the thermometer it has seldom varied more; nor could it be expected to happen otherwise. For the satisfaction of those gentlemen who employ themselves in the like observations, it is thought proper to acquaint them,

That the instrument by which these are made, is graduated according to Fahrenheit's scale, and was made by a workman of reputation.

That it is placed without doors, in a court, one story from the ground, in a situation sheltered from any current of wind, as well as secured, by the height and situation of the neighbouring houses, from the direct or reflected influence of the sun.

That the usual hour of observation is about eight in the morning, in winter, seven in summer; and that the place is near the center, and one of the most populous parts of the city.

It may be likewise observed, that the instrument is distant about two inches from the wall, and has as little connection as possible, to be secure, with any solid body. The scale is wood, and touches the tube in very few points.--- Though the writer imagined he had chosen a very proper place within doors, to discover the general temper of the air, yet, from a strict attention, he finds that many causes concur to render this instrument uncertain within doors, in any situation, and he doubts it is still liable to many exceptions without.

Thus far no diseases have appeared in the city or suburbs, so far as the author knows, that have any thing peculiar to merit a farther description at present.

Observations on the Weather, &c. in March 1754.

Barometer.

Highest $30 \frac{6}{16}$.

Lowest $29 \frac{2}{16}$.

Greatest variation in one day $\frac{5}{16}$.

Common station $30 \frac{2}{16}$.

Thermometer within doors.

Highest 51.

Lowest 38 deg. the 13th and 18th. Hard frost and much snow.

Greatest variation 6.

Common station 44.

Thermometer without doors.

Highest 46. Lowest 29, the 12th. Frost.

Greatest variation 6.

Common station 37.

The unusual severity of the weather in this last month claims a particular notice, as the like, perhaps, hath not been observed in this country for many years. The last month ended rather temperate and fair, the thermometer without doors keeping always above 40, and within doors commonly near 50. About the 5th ult. the wind shifted from S. W. to N. E. and the weather from temperate and clear became gradually more cold and cloudy. On the 9th it began to snow, freezing hard at the same time, and continued snowing, more or less, almost every day to the 25th, the time when this monthly account concludes. During this time the weather was for the most part unusually dark and cloudy, the wind often high, and from the N. W. N. or N. E. points.

Disorders of the breast were, during this time, both frequent and fatal. Lax corpulent habits, subject to coughs and asthmatic complaints, suffered extremely. A thin irritating defluxion, with little appearance of a fever, began, and produced violent and incessant coughing. Bleeding afforded some temporary relief; but, if copious, weakened. Discharges by stool, either spontaneous or artificial, gave little relief. Plentiful expectoration was the most beneficial; but the quantity to be discharged too often exceeded the force of nature; and, notwithstanding the application of blisters, the use of mild balsamics mixed with volatiles and the more stimulating expectorants, (as the case seemed to require all) too often proved unsuccessful. Palsies were likewise not uncommon; and the writer thinks he has met with fresh cause to suspect, that the too free and frequent use of the lancet, in such complaints, sometimes subjects both the patient and physician to insuperable difficulties.

Observations on the Weather, &c. in April 1754.

Barometer.

Highest $30\frac{3}{16}$. Lowest $29\frac{3}{16}$.Greatest variation in one day $\frac{4}{16}$.

Common station 30.

Thermometer within doors.

Highest 56. Lowest 41 deg. the 25th.

Greatest variation in one day 9, the 18th, from 50 at night to 41 in the morning. Hard frost and snow.

Common station 50.

Thermometer

Thermometer without doors.

Highest 54. Lowest 32.

Greatest variation 7, the 6th, from 47 to 54.

Common station 41.

Greatest variation between morning and noon 10.

The unusual severity of the weather, both in this and other parts of Britain, during this month, will probably be long remembered. A few days before this account concludes, the cold indeed began to relax, and there was now and then a day, towards noon, when the air was temperate; but in general it has been cold and dry to an extreme degree; the frosts sharp, and accompanied with snow and hail. From this state of the weather, every appearance of spring has been excessively retarded, and the powers of vegetation in a manner locked up. Scarce an alder-leaf fully expanded, and the lilies but half opened; from these it will be easy to judge of the rest.

Thus far, however, the general health has not suffered by it, nothing like an epidemic having shewn itself in the city, nor the sporadics numerous. Spasmodic or rheumatic pains of the breast have affected some, but have been soon removed by moderate bleeding, small doses of camphire and nitre mixed, with laxative only and volatile medicines, as occasion required.

Observations on the Weather, &c. in May 1754.

Barometer.

Highest $30\frac{1}{16}$. Lowest $29\frac{6}{16}$.

Greatest variation in one day $\frac{4}{16}$.

Common station $29\frac{2}{16}$.

Thermometer within doors.

Highest 61 deg. Lowest 53.

Greatest variation in one day 6 degrees.

Common station 57 degrees.

The thermometer without doors has not been so carefully observed this month, as to furnish a regular account of it.

The weather about the end of the last month was temperate and fair, the wind S. W. it veered soon to the N. E. and the air grew cool and cloudy, though dry. Towards the middle of this month it became more temperate, the wind southerly, and at length succeeded some plentiful warm rains about the 22d, which continued with some interruptions a few days, when the weather again became cool and fair.

Perhaps there are but few who can remember so sudden an alteration in the
face

face of vegetative nature, as hath happened in this month: spring, instead of her usual progress, which in this country has been interrupted and slow, came upon us at once, and the scene which had been so long dreary and desolate, was suddenly covered with verdure; the trees blossomed into fragrance and beauty, and the pledges of plenty were every where scattered with the utmost profusion. Those who repined at the delay, and were ready to wish the power of rain and sunshine in their own hands, are once more detected in the folly of discontent, and it is to be hoped they will at last learn to acquiesce, not only with cheerfulness, but gratitude, in the dispensations of that unerring goodness which presides over universal nature, and has so long blessed this country with *health and fruitful seasons*.

In respect to diseases, none have appeared that deserve the name of epidemic. Rheumatisms, vernal intermittents, and consumptive complaints, have been the most frequent, but not more so than in other springs.

The small-pox, which was beginning to spread in some parts of the town, seems to be upon the decline; except by inoculation; for this practice daily gains ground, notwithstanding some instances now and then occur, that are not attended with the happy success one could wish for. In general, however, both the favourableness of the disease itself, and the absence of various ill consequences attending it in the natural way, are so much in favour of inoculation, that in time it seems likely to become the general practice, and may thereby secure to the state a multitude of useful lives, to the parties themselves tranquillity of mind, and to many of them agreeableness of person.

It may again be proper to remind those who are engaged in this practice, that the slightest scratch with the point of a needle, or any other instrument that will just make the blood start through the scarf skin, will be sufficient; and that much less than the tenth part of an inch of fine thread, that has been drawn through a ripe pustule, will be enough to produce the disease. And also, that the matter should not be applied, by the person who has taken it from the variolous patient, soon after he has procured it, for the reasons alledged in a former *Magazine*, (vol. xxiii. p. 218.)

Observations on the Weather, &c. in June 1754.

Barometer.

Highest $30\frac{1}{16}$. Lowest $29\frac{7}{16}$.

Greatest variation in one day $\frac{3}{16}$.

Common station $29\frac{8}{16}$.

Thermometer within doors.

Highest 65 deg. Lowest 57.

Common station 61 degrees.

Greatest variation in one day 4 degrees.

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The weather at the end of the last month was cool, cloudy, and dry; at the beginning of this it became more warm and clear; a few days about the middle were still warmer; but as the month advanced, the weather grew more cloudy and cool, except some sudden gleams of heat from a few hours of a clear mid-day sun now and then, which raised the thermometer without doors considerably, while within doors it remained unaltered, varying not more than about four degrees in any one day or night, as far as occurred to the observer, in all this period.

The wind has been chiefly S.W. or W. and mostly pretty high, which both covered the sky with clouds, and kept off the rains from these parts, except now and then some acceptable showers, and a wet day or two near the end of the month.

The same kind of remittent fevers, mentioned in a preceding month, have appeared, though not in great numbers; irregular intermittents have likewise been frequent, especially periodical hemicranias, which soon gave way to the Bark, with so much Rhubarb, or Tinct. Guaiac. Volat. added, as kept the belly rather lax than costive. Coughs, rheumatic pains affecting different parts of the thorax, and other diseases of the breast, have been much more frequent in this month than usual, caused perhaps rather by the too early change of dress, than the peculiar constitution of the air. Bleeding in most was beneficial; a repetition was sometimes necessary. Mild diaphoretics, anodynes, pectorals, and warmth, were generally successful. The ulcerated fore-throat has just begun to shew itself, with its usual symptoms; it yields to the common remedies, and is exasperated, as it always has been in general, by bleeding and large evacuations. A cataplasm of Ther. Androm. with a small quantity of Sal. C. C. spread thick, and applied externally from ear to ear, seems to have afforded speedy relief in some cases, not however omitting cordials internally at the same time.

Observations on the Weather, &c. in July 1754.

Barometer.

Highest $30\frac{2}{10}$. Lowest $29\frac{3}{10}$.

Greatest variation in one day $\frac{5}{10}$.

Common station 30.0.

Thermometer within doors.

Highest 68 degrees, the 22d. Wind S.E. Very warm.

Lowest 60.

Greatest variation in one day 5 degrees.

Common station 62 degrees.

The last month ended cool, showery, with brisk westerly winds; the beginning of this was fair, clear, and temperate: towards the middle it became more wet and cloudy, and continued so, with the intervention of a very few warm days, to the end of the month. The wind during the whole was variable, but kept generally to W. or S.W. and sometimes pretty brisk.

About the beginning of the month, several were attacked with the *erysipelas*, affecting chiefly the head and face, though sometimes appearing on other parts of the body. Mild diaphoretics, with anodynes to abate the painful soreness, not to stupify; emollient clysters, to keep the belly open, not lax; diluting liquors moderately in regard to quantity, and rather cool than hot, in a few days restored the patients to their usual health: nitre dispirited them; and, without some anodyne at night, they were disposed to watchfulness and delirium, as in the small-pox. As the month advanced, apoplexies and paralytic complaints became very frequent, and we still hear of one or other almost daily attacked. To what can this be owing? Sudden transitions from heat to cold, or from cold to heat, often produce these complaints: but, excepting a day or two, the weather has been uncommonly equal; and none of the sensible qualities have remarkably predominated. If nothing in the constitution of the air appears capable of producing such complaints, to what other general cause can we have recourse? In respect to diet, we change nothing in our common course, except a more plentiful use of vegetables; in which term must be understood to be included fruits of all sorts, as well as roots and greens. But these have seldom been considered as productive of such disorders.---They may, however, by accident, contribute in some constitutions to bring on the above-mentioned disorders, that is, by their quantity.---We seldom are called to apoplectic patients, but, upon enquiry, we learn that some unguarded meal has preceded, and that, within a very few hours before the attack, they have made a repast which, either in respect to quantity or quality, the by-standers themselves admit to have been improper.---It is therefore mentioned as a caution to all, who either from their make and time of life have reason to apprehend they are exposed to the disease above-mentioned, or have already had some slight attack of it, that as they wish to prolong their lives, they would avoid full meals, but more especially suppers. The constant and abundant use of tea, though for a very different reason, seems likewise capable of contributing its share to the increase of these disorders: and, indeed, the continued use of this exotic seems to demand the attention of the faculty, and their steady and unanimous opposition, if its effects should appear to be as certainly, though insensibly, injurious to the body, as the consumption of time, and its other ill consequences, are undoubtedly to the state.

Observations on the Weather, &c. in August 1754.

Barometer.

Highest $30\frac{2}{10}$. Lowest $29\frac{7}{10}$.Greatest variation in one day $\frac{3}{10}$.

Common station 30. 0.

Thermometer within doors.

Highest 69 degrees at night, the 20th. E.

Lowest 60.

Greatest variation in one day 4 degrees.

Common station 64 degrees.

As the last month ended, so this began, cloudy, cool, and wet: the weather continued thus till about the middle, when the wind shifted to the E. and brought a fair, warm, and agreeable season. After a storm of thunder, lightning, and heavy rain, the 22d in the night, with a S. E. wind, the air continued sultry, and the weather wet, till the period when this account concludes.

The motions of the quicksilver, both in the barometer and thermometer, have been very slow, and the rise and fall in each by short gradations. In the thermometer, suspended in the shade without doors on the 11th in the morning, the mercury stood at 58; 2 degrees lower than within doors, any time this month; and rose the 15th and 19th to 75 at noon, the highest it was observed to be.

A dangerous remittent fever, and the small-pox, have been the most common acute diseases that have occurred in this month. The former was fatal to many; and though it often continued to the 14th or 17th day, yet it was extremely difficult to discover the *juvantia* or *ludentia*, except in regard to bleeding, which was most commonly injurious, as those who lost the most blood, and at the greatest distance from the first attack, suffered the most, were the soonest delirious, convulsed, and carried off. The early application of blisters seemed no less injurious. A gentle emetic, and mild calming diaphoretics, the bed-cloaths light, the room airy, but not cold, with thin diluting liquors to satiety, not to load, were circumstances of moment to the patients ease, as well as recovery.

The small-pox were frequent in many parts of the city and eastern suburbs especially. In general the kind was mild, distinct, and favourable. Out of sixteen, who had the disease in a certain district, of different ages, one only died; but in common a much larger proportion miscarried. And it is to be remarked, particularly, that though in general the small-pox was of

the sort described, yet where it was otherwise, it was so in an extreme degree, with an uncommon proneness to malignancy. In two cases that occurred, where the load of small-pox was not remarkably great, the subjects young and healthy, and no obvious mismanagement, large livid *petechiæ* appeared soon after the eruption, daily increasing in extent and deepness of colour to the 3d or 6th, when, after days and nights of incessant anxiety and delirium, and the fruitless application of such remedies as seemed the most suitable, the disease proved fatal. The author does not remember ever to have seen instances of so virulent a kind, appearing at a time when the general tendency was to the mildest and most favourable.

Observations on the Weather, &c. in September 1754.

Barometer.

Highest $30\frac{5}{16}$. Lowest $29\frac{2}{16}$.

Greatest variation in one day $\frac{2}{16}$.

Common station $30\frac{2}{16}$.

Thermometer within doors.

Highest 67 deg. Lowest 57.

Greatest variation in one day 7 degrees.

Common station 63 degrees.

The weather during this month has been uncommonly dry, the air, for the most part, temperate and serene; sometimes approaching, in the middle of the day, to sultry, whilst the mornings and evenings were rather cold than temperate. On the 7th and 8th we had some gentle showers, the wind S. W. and somewhat high; the rest of the month was dry, and the wind northerly.

Choleras, inflammations of the bowels, rheumatisms, and intermittents, have been the most common diseases; but a dangerous remittent fever, though not very frequent, has been the most alarming; the access is commonly vehement, the rigor like that of a regular tertian, the subsequent heat intense, which generally continues so long as to shew that it is not of this genus: partial sweats succeed, which afford no relief, but leave the lassitude and pains of the head and back as afflicting as at first. In this state it is common for those who are called in, to order bleeding. The blood is florid, not very dense; the serum of a deep yellow; the urine at the same time is crude and high-coloured. Bleeding often mitigates the febrile symptoms considerably; but they return in twenty-four hours, and induce some to bleed a second time. The respite from this second bleeding is frequently more perceptible than the first, but a delirium often follows the next night, with a dry tongue, quick pulse, high-coloured urine, loose acrid stools, catchings, watchfulness, and

and the most alarming symptoms. Now and then they hold out to the 17th or 18th day, but more commonly drop off about the 14th or 15th.

Observations on the Weather, &c. in October 1754.

Barometer.

Highest $30\frac{4}{10}$. Lowest $29\frac{2}{10}$.

Greatest variation in one day $\frac{3}{10}$.

Common station $30\frac{1}{10}$.

Thermometer within doors.

Highest 65 deg. Lowest 52.

Greatest variation in one day 7 degrees.

Common station 56 degrees.

Thermometer without doors, in the morning.

Highest 64. Lowest 43.

Greatest difference betwixt morning and noon on the same day
15 degrees, viz. on the 15th instant, from 43, the lowest, to 58.

Greatest variation betwixt any two mornings 11 degrees, viz. from
44 to 55, between the 8th and 9th instant.

Common station 54 degrees.

If the preceding account is more prolix, it is with a design to make it the more useful: the reader will be pleased to remember, that it is a record of facts, which though at present seem but little interesting, yet, in future time, may be of very important use. What instruction would not something of this kind have afforded, had it commenced a century ago, and been regularly continued to the present time?

The end of the last month was for the most part fair, clear, and temperate, and likewise the beginning of this. On the 6th we had the first shower that had fallen for some weeks, and on the 9th some heavy rain: except some intervening showers, the rest of the month was generally fair, and the weather favourable as to heat; now and then a few warm days, with very little wind, and at other times a brisk cool westerly breeze, or northerly and cold.

The fever, mentioned in the last account, did not wholly disappear till the weather became more moist and cool; the preceding adust temperature having manifestly contributed to increase it.

Rheumatic pains affecting various parts about the thorax, intermittents, and some inflammatory rheumatisms, are now more common, which generally yield to the ordinary treatment.

But before we altogether dismiss the fever above-mentioned, it may not be

be improper to remark, that scarcely any thing in the practice of medicine requires greater judgment, than to determine, at the access of fevers, whether bleeding is proper or not, and to what quantities. In the present instance, moderate bleeding once, seldom was beneficial, but to repeat it, was most commonly injurious. The writer does not say this with a view to insinuate, that none but a few are judges, in order to promote their advantage; but merely with a design to prevail upon those who are often first called, to consider, that if the fever is of the low depressed kind, they are taking away that force which will ere long be wanted, and which no art can restore.

Next to bleeding, blisters are commonly applied, and they often follow each other immediately; so that one often finds bleeding, blistering, sweating, and perhaps a repetition of all, have been promiscuously ordered in the space of a very few days, while, from the general disorder, it was scarcely possible to determine whether any, or which of these processes was necessary. These things are not said with a view to accuse or reproach, but to excite a just and necessary consideration of what is proper, and not what is customarily done. Bleeding is, doubtless, often necessary in fevers; the pulse, the constitution, or the season, mostly point out the time and the quantity; which, if it is at all proper, is most commonly so within the first four, five, or six days. This evacuation, with diluents and proper regimen, will often take off a fever without any other assistance. But in regard to blisters, their early application must in most cases be prejudicial. Where bleeding is proper, they are commonly improper; they cannot take off a fever, they have no tendency to it, any otherways than by keeping up the languent circulation, where the pulse rather grows feeble, and the strength declines; here they are a noble remedy: a prudent succession of them often does wonders towards the acme of the fever, and not only promotes a salutary crisis, by the stimulant invigorating quality, but by opening a favourable drain for the critical discharge itself. We lose these advantages if we blister early; we hurry on the already too precipitate course of the blood and juices, and deprive ourselves of a resource, than which medicine hardly affords any one more efficacious. Emptying the first passages prudently at the first is scarcely ever prejudicial in this or any other fever: bleeding in this is most commonly injurious; and blisters early applied, I believe, are seldom useful in fevers, if not constantly detrimental.

Observations on the Weather, &c. in November 1754.

Barometer.

Highest $30\frac{3}{16}$. Lowest $28\frac{8}{16}$.

Greatest variation in one day $\frac{6}{16}$.

Common station $29\frac{8}{16}$.

Total of mornings observations $920\frac{8}{16}$.

Thermometer

Thermometer within doors.

Highest 60. Lowest 50.

Greatest variation in one day 4.

Common station 52.

Total of mornings observations 1716.

Thermometer without doors.

Morning. Noon.

Highest - - - 56 64 27th ult.

Lowest - - - 39 47 27th ult.

Common station 48 52 $\frac{1}{2}$

Greatest variation from morn to noon 10.

Total - - - 1461 1638.

The quicksilver in the barometer sunk lower on the 9th and 10th instant, than it has been known to do during the course of these observations; so low as to 28 inches 8-tenths, the weather at the same time fair, and, the season considered, clear and temperate; the wind S. E. and rather calm. These circumstances are mentioned, as they are uncommon with a S. E. wind. The quicksilver, indeed, almost always sinks, but seldom low, without very high winds, or much rain, neither of which happened at that time, nor did any remarkable wet weather ensue about this place. It was conjectured that much rain might then be falling in distant parts, which from the daily papers, and other accounts, was soon after found to be the case. And it has more than once been observed, that if the quicksilver keeps very low, with a northerly wind, much snow is then falling to the northward, and perhaps at a very great distance; and also that if it is low with a S. E. and fair, heavy rains are then falling to the southward, though, perhaps, neither snow or rain appear at the place of observation.

The weather during this month, till within a few days of its conclusion, has for the most part been fair and clear, though there have been some dark, cold, and rainy days, but generally clear, temperate, and the winds easterly. Rheumatisms have been very frequent and obstinate. Many have been seized with catarrhal coughs, and consumptive habits have suffered greatly. The fever mentioned in the preceding accounts still continues; the cautions hinted before are still necessary: bleeding, almost in the smallest quantity, is injurious, and a repetition generally fatal.

R E M A R K S

* R E M A R K S
ON THE
NEUTRAL SALTS OF PLANTS,
AND ON
TERRA FOLIATA TARTARI.

CHEMISTS, who prepare the lixivial Salts of Vegetables, generally take care, by the means of hot water, and sometimes repeated affusions of it, to get every thing out of the ashes that is soluble; and when they evaporate this solution, they employ the salt which is obtained from it as a pure alkali in other operations, either not knowing or neglecting the Neutral Salt, which Boerhaave says † is mixed with it, and is *sui generis*. In an operation which I was lately employed in, the necessity of considering the effects of this Neutral Salt was evident, and I could determine the genus to which the greater part of it belonged.

An ingenious Chemist of my acquaintance, intending to make a large quantity of *Terra foliata Tartari*, used for that purpose the *lixivial Salt of Fern*, carefully made in the country by a person well skilled in practical chemistry, careful and exact. Some of this salt was fluxed, the rest was a clean lixivial salt; each kind was saturated by itself with strong distilled vinegar, eight or nine times the weight of the salt being sufficient of the vinegar to fully saturate the alkali of both parcels; whereas usually fourteen or fifteen times the weight of the salt is requisite of the vinegar to make a perfect saturation.

The saturated liquors being filtrated, and carefully evaporated to a melluginous consistence, hissed and crackled where it hardened on the sides of the vessel, and did more so the nearer they came to dryness, shewing hardly any marks of a disposition to flow, which commonly happens when the saline liquor is so far evaporated.

* Written in the year 1736, and inserted in the 5th volume of "Medical Essays and Observations, published by a Society in Edinburgh," page 147.

† Chem. Proc. 14.

No methods which the operator, who is a very expert artist, could then fall upon, served to make the process succeed.

The Chemist having informed me of the case, we could discover no fault in the materials, vessels, or operation; but, suspecting the Neutral Salt to be the cause of the process not succeeding, we dissolved all the refractory mass in warm water, set it to cool, and had a considerable quantity of neutral crystals, several of them exactly resembling those crystals delineated in tab. I. of your vol. i. which were procured by Dr. Plummer from *Moffat* water; only ours were more perfect, which was owing probably to the large quantities of materials we had. Most of the crystals were cubical, which, joined differently, and mixed with other salts, made a surprising variety of figures, which cannot well be described in words; but I have sent some of them of different shapes in a box. It was plain from their figure and taste, and by experiment, that common *Sal marinum* made up a great part of what we had; the rest might not unjustly be called partly a *Sal Polychrest*, partly the essential salt of the plant.

We were obliged to repeat this operation for obtaining those crystals, before we could obtain a Salt which flowed and foliated; the crystals deposited each time were more bitter and more pungent, though in form resembling the first we got; the *Terra foliata* did not flow nor foliate so freely, nor were the foliations so large or so white as usual.

It is with reason then that Boerhaave orders * a *Sal Alkali purissimum* to be used in the preparation of *Tartarus regeneratus*, or *Terra foliata Tartari*; and the dispensaries which order *Sal Tartari*, direct the chemists to a more certain process than when they are left at liberty to employ what they will. The chemists in town here mostly use the *cineres clavellati* in this process, and succeed very well, or make the salt with large foliations and white; and perhaps this is the only one of all the neutral saponaceous salts, which is more efficacious, the whiter and purer it is.

The principal reason why chemists succeed better in making *Terra foliata Tartari* with *cineres clavellati*, than with any other of the lixivial salts, seems to be, because those who prepare the *Pot-ash* content themselves with letting cold water run through large tubes or vats filled with ashes, till it has washed so much from them as to make a *lixivium* support an egg; by which operation, little of the Neutral Salts are dissolved to mix with the *lixivium*; and probably in drying the *lixivium*, what of the Neutral Salt is in it, is forced by the fire to the surface, to form that crust which it takes in burning the straw that is wetted with it.

That the ashes which remain after the *pot-ashes* or salts are extracted, con-

tain much of the Neutral Salt, is evident from their serving so well the purposes of agriculture, being preferable to sea-salt for all such purposes.

How such a quantity of sea-salt should be contained in vegetables, is an enquiry foreign to your design, and therefore I shall not mention my opinion of this phænomenon: I believe it will not, however, be unnecessary to remark, that Physicians ought to consider, that the proportion of this Neutral Salt, mixed in alkaline ones, is often different; the more is thus mixed, the less acid is required to saturate a given quantity: hence it frequently happens, that the medicine we intend should be perfectly neutral, is very acid, and entirely disappoints our expectations*.

With respect to the process for making the *regenerated Tartar*, it may not perhaps be without some use to observe, that the more vinegar is put to it, the *foliations* will appear larger and whiter, though it is the more expensive, because, whatever vinegar is bestowed on it, the operator must expect very little more salt than the weight of the alkali made use of.

The addition of somewhat more than the ordinary proportion of vinegar not only contributes to render the salt finer, as by repeated trials we found it did, but also prevents it from becoming too alkaline; for was it to be brought to an exact *punctum saturationis* before it is committed to the fire, the heat necessary to evaporate the liquor and flux the mass would render it more of an alkaline corrosive, than of a neutral saponaceous nature. This induced me to remark, that its whiteness may be esteemed as a mark of its goodness, it arguing that a proper quantity of vinegar has been used; and it may be rendered whiter and more pure by repeating the dissolution, evaporation, and fluxion.

The *Tartarus regeneratus*, taken from the quantity of half a drachm to two drachms, is an excellent alterative and diuretic; and from three to six drachms

* It is common here to prescribe one scruple of Sal Absinth. to half an ounce of Succ. Limon. To learn how far this proportion was just, I procured six parcels of Salt of Wormwood, and six of Salt of Tartar, from shops in different parts of the town: I procured likewise a quantity of lemon-juice, sufficient for all the trials I intended. Half an ounce of this juice was saturated with 18 grains of one of these parcels, and required 32 of another to reduce it to the same degree of neutrality. This difference was owing to the Neutral Salt contained in the last, which was really procured from Wormwood ashes, and carefully lixiviated with hot water.

The specimens of Salt Tartar were more alike; they varied only from 18 or 19 grains to 23 or 24. The fresh Salt of Tartar is a pure alkaline salt; if it is exposed to the air, it absorbs the acid contained in it, and thus becomes neutral in proportion to the time it has been kept, or as it has been exposed to the air.

Wherefore, in directing the common saline draughts, it would seem that 24 grains is a much more suitable proportion than one scruple; and if to this mixture we add a scruple of some absorbent, as crab's eyes, &c. we shall probably have a mixture more perfectly neutral, than we shall be able in common to obtain by any other method of prescribing.

is a very mild cathartic, that never sinks the spirits, or raises any violent disorder, and particularly is serviceable to several dropfical patients: of its service this way allow me to mention one history.

A married gentlewoman, forty-eight years old, childless, a little corpulent, was repeatedly affected with an immoderate discharge of the *menfes*; soon after her belly began to swell, her legs grew œdematous, and all the symptoms of a dropfy appeared. She was treated with the strong and gentle cathartics, diuretics, aperients, and corroborants; but this bad circumstance always attended evacuations either by stool or urine, that they never failed to produce a discharge of blood from the *vagina*, which sunk her prodigiously. Corroborants, especially of the astringent kind, soon stopt the flux; but, at the same time, contributed to increase the swelling, by lessening the discharge by urine and stool. She then began to take three drachms of the *Terra foliata Tartari* once or twice a week; it gave her two or three stools, with a large evacuation of urine, without exciting the menstrual discharge, or affecting her strength: she continued the use of it for upwards of a year, without increasing the dose, or attempting any other relief than what that gave her, which was very great. Whether it would have made a complete cure, I cannot say; for, having taken a rough purgative, she had her days shortened by it.

THE following Essay on Amber was printed in the Philosophical Transactions, when curiosity was much excited upon the origin of this valuable production: besides the authorities quoted in this place, the reader may meet with many others in James's Medicinal Dictionary, under the word Ambra: Philosophical Transactions, N° 19, p. 349; N° 248, p. 5; N° 468, p. 322: Dictionnaire Raisonné-Universel de Matière Medicale, tom. vii. p. 209, et suivant: Macquer Dictionnaire de Chimie, sous le mot Succin. Edit. 1778.

Though Amber was known to Antiquity, Frederic I. King of Prussia, was the first who rendered it an important commercial object. Amber is very common in this kingdom, and in some places lies almost on a level with the surface of the ground, so that the labourers collect considerable quantities of it in tilling the land. There are some parts of Prussia, where neither tree nor herb vegetates, where the ground is covered with a substance resembling the bark of a tree. Frederic caused this substance to be removed, under which was found a bed of black earth, and beneath this a bed of wood, in the veins of which Amber was discovered, greater in plenty in proportion to the quantity of this wood.

Some years ago a considerable quantity of fine Amber was found in Saxony, which has furnished four dissertations, printed in the Collection of the Curiosities of Nature; an extract of which may be seen in the French edition of Henkel's Pyritologia.

It is said that the King of Prussia has a burning mirror of Amber, that is a foot broad, and free from blemish. There is in the cabinet of the Duke of Florence, a fine column of Amber, six feet high, and of the most perfect lustre: there are also vessels made of this substance with infinite labour. We are informed, that some years ago there was an artist in Prussia, called Samuel Som, who had not only the art of clarifying Amber, and rendering it transparent, but also of dyeing it of any colour, and even to soften it and inclose insects in it, to make a gain of selling it to persons curious in these rarities.

Editor.

E X T R A C T O F A N E S S A Y
U P O N T H E
O R I G I N O F A M B E R *,

Read before the ROYAL SOCIETY, March 1, 1743-4, p. 21.

AFTER all that has been wrote upon the subject of Amber, its origin is yet, in a great measure, unknown. Several ingenious men have searched into this affair upon the spot where the Amber is principally gathered: they have related their observations with great candour; they have given us the conclusions they drew from the facts they discovered; yet without satisfying us entirely about many particulars.

But as a knowledge of the nature of things can only be acquired from the things themselves, I have carefully collected every material fact I could meet with from those who were best acquainted with the natural history of this subject, and whose industry and accurateness in observing, and good faith in relating their observations, have been generally esteemed unexceptionable. Of these I shall only mention *Wigandus*, *Hartman*, and *Sendelius*, the last who has wrote, as far as I know, professedly upon this subject.

The evidence which these gentlemen afford us I have endeavoured to throw together, in the most natural order I could, without respect to any hypothesis: but as this enumeration of facts admits of no abridgement, my papers would take up too much room in your memoirs, therefore I can only refer to the essay itself. Upon this foundation of facts is built a discussion of the following problems:

1. Whether Amber is not strictly a marine production; or is reduced by some quality of the sea-water into the condition we find it in? Or,
2. Whether it is not to be considered only as a bituminous body, generated in the bowels of the earth? Or, lastly,

* Philosophical Transactions, N° 472.

3. Whether

3. Whether it is not, in its origin, a vegetable production, a resin; but changed into its present form by a mineral acid?

It will only be necessary, in this place, to mention, that, after having shewn the difficulty of maintaining the two first, I have undertaken to support the last of these opinions.

I endeavour to make it appear, that Amber was, in its origin, a vegetable resin*; the product, perhaps, of the fir or pine kind†; by considering the appearance of the substance itself: and that though it has some distinguishing properties, yet it has many others, which are common to an indurated resin. Its aspect, its texture, its form, are arguments for this. The bodies which it is known to inclose are urged as proofs, that this inclusion could not happen in the sea, nor in the earth, but upon its surface; as the included objects are mostly animals, mostly volatiles too: very few reptiles, except such as are often found aloft in trees, as ants, spiders, &c. and scarcely ever any aquatics, are found in Amber. And, I believe, I may challenge all the cabinets of the curious to produce one instance of a marine body having been found naturally inclosed in Amber. That there are several fictitious ones is granted.

That this resin, with the trees which afforded it, were buried in the earth by the deluge, or by some such violent renversement, and there constitute the proper veins of Amber, I likewise endeavour to make appear, from the same evidence of facts. The substance of which these veins consist hath several genuine characteristics of wood still remaining. The texture of this substance is often an undoubted proof of what it hath been; being fibrous, and, when dried, swims in water, and burns like other wood. The Amber is not disposed in these veins in one continued *stratum*; but lumps of it are irregularly disseminated through the whole of what I call the woody mass.

A difficulty, which naturally offers itself in this place, is attempted to be removed: What proof have we that this, which is called wood, is not mere fossil wood, the product of creating power, exerted in the place where it is now found? It is answered, that as there are undoubted proofs, that many substances now occur, where they were not originally framed, we are under no greater difficulty in accounting for the change of place in one than the other. It is known that the *exuvie* of fishes are sometimes found on the tops of the highest mountains. The bones of large animals are met with at prodigious depths, where nature never formed, nor art conveyed them. Whole woods are found under-ground. The cause that effected these was capable of the other.

Yet, allowing these allegations to be just, by what causes is this change pro-

* From the subsequent observations on mixing oils, resinous and pinguous substances, it appears that the author retained the opinion he had thus early adopted. *Editor.*

† This was the suggestion of Agricola, and of some more recent writers. *Editor.*

duced? It is urged, that time is one of the causes; and that the rest is completed by the acid of the earth, a vitriolic mineral acid. It is proved, from the facts above-mentioned, that such an acid is present wherever Amber occurs in its *proper matrix*; that it is sometimes found in the Amber itself, in its genuine appearance; that the acid of the salt of Amber appears, from experiments, to be vitriolic; that common turpentine (a known vegetable resin) affords, by proper management with a vitriolic acid, a considerable portion of the same chemical principles that Amber does; that those pieces of Amber, which have been found soft and imperfect, are nearly related to a vegetable resin: in short, it is endeavoured to be proved, that we have the ingredients of Amber in our power, and that nothing is wanting but a successful application of them to each other, at least to procure the medicinal preparations of Amber at an easy expence. Time and repeated trials may, perhaps, ripen this beginning, in somebody's hands, into an happy useful imitation of this valuable substance.

This account is concluded with an enquiry into the medical virtues of Amber, and some of its principal preparations. It is observed, that a substance of so firm a texture, as scarce to yield to any common *menstruum*, is not likely to produce any considerable effects upon the human body; and that, indeed, there are very few genuine instances recorded of any: that busy imagination might, probably, at first, introduce it, prejudice support it, and engage men of parts and authority to recommend it to their inattentive successors.

I shall finish this abstract with remarking, that were some of the leisure moments of men of great abilities and experience devoted to inform the world of the inefficacy of such methods and medicines as they have proved to be so, Physic would be reduced into narrower bounds; they would merit the thanks of every one in the profession; and posterity, at least, would commend their endeavours.

O B S E R V A T I O N S
ON THE
M A N N A P E R S I C U M *,

Read before the ROYAL SOCIETY, April 26, 1744.

IT does not appear very plain, from any thing that has occurred to me in the writings of the elder Greek physicians, that they were much, if at all, acquainted with any substance that now goes under the name of *Manna*. They had the term, but applied it to a subject very different from what we do at present. The ὑποσεισμα τῆς Λιβανύτης, or the *Micæ thuris concussu elisæ*, the bits broke off from the *olibanum* in carriage, was the substance they knew by that name.

If the *Arabians* did not first of all introduce some kind of purging *Manna* into practice, they at least rendered the use of this drug more common and extensive. Their country afforded several species of it; which being familiarly known, is, perhaps, the reason why no descriptions have been left sufficiently clear, whereby to distinguish them from each other. Whoever has consulted the Arabian writers, or the best of their commentators, will allow that their accounts are defective.

That they had three sorts of this drug, distinguished by the names of *Manna*, *Tereniabin*, and *Siracost*, is certain; but whether these are now known, or by what appellations, has been very much disputed.

Rauwolf, in his Itinerary published by Ray, and Tournefort, in his voyage to the Levant, have given the clearest intimations of any writers that I know of: if to these we add Clusius, we have all that we are to expect of certainty, amongst those who have mentioned it; they being eye-witnesses of what they wrote. Yet the descriptions of these are either so imperfect or unknown, that a very late writer upon the *Materia Medica* †, either not hav-

* Philosophical Transactions, N^o 472, p. 86.

† Geoffroy Traictat. de Mat. Med. vol. ii. p. 586, &c.

ing seen or understood them, has fallen into a mistake about the *Manna Arabum*, and his authority may perhaps mislead others.

My worthy friend Peter Collinson, having procured a sort of *Manna* from a gentleman at Petersburg, under the title of *Manna Persicum ex planta Alhagi Maurorum*, was pleased to favour me with a specimen of it. I consulted the principal writers on the *Materia Medica*; and finding their opinions to be frequently opposite, and their accounts in general perplexed, I imagined it would not be unacceptable to the curious to have such a description of this species as would probably make it clear, that we have one kind of the *Manna Arabum* still extant, viz. the *Tereniabin*, and prevent any future mistakes about it.

The specimen of *Manna* that now lies before me appears, at first sight, to be a dirty reddish brown-coloured mixed mass; which, upon a nearer view, is found to consist of,

1. A great number of globular, crystalline, almost pellucid bodies, of a yellowish white colour, and different sizes; the biggest not much exceeding a large coriander-seed, or a very small pea. They differ from grains of Mastich, in being more upon the reddish cast; but in figure and transparency vary not much.
2. Some small sticks like prickles, and others like footstalks of leaves or fruit.
3. A few narrow-pointed firm small leaves.
4. A large quantity of long reddish-coloured pods, of a sweetish gelatinous taste, containing from one to six or seven hard, irregular, somewhat kidney-like seeds, which to the taste are very acerb. And,
5. Some sand and earth. Four ounces of the *Manna*, dissolved in warm water, left one ounce or something more of these in the filtre.

The globules (N^o 1.) are hard, and break between the teeth like sugar-candy; they are of a pleasant sweet taste, with much less of the *Manna* relish than the Calabrian; but with enough to discover to what family this substance belongs.

The sticks, leaves, pods, &c. seem to be parts of the plant that produces the *Manna*. Some of the seeds have been sown, and proved so fresh as to afford some plants of the *Alhagi*.

About the year 1537, when Rauwolf wrote his Itinerary, it appears, that large quantities of this kind of *Manna* were brought from Persia to Aleppo, where it was then known under the name of *Trunschibil* or *Trunschibin*; a corruption, doubtless, of the antient *Terenjabin*; or, as it ought to be wrote, according to Deusingius *, *Terengjabim*.

* Deusingius Tract. de Manna et Sacch. p. 11.

Rauwolf informs us, that this species of *Manna* was gathered from the *Albagi*; a plant which is minutely described by Tournefort *, who also confirms the account which Rauwolf had long before given, with the following particulars :

“ It is chiefly (says he) about Tauris, a city in Persia, that it is gathered, “ under the name of *Trungibin* or *Terenjabin*, mentioned by Avicenna and Serapion. Those authors thought it fell upon certain prickly shrubs; whereas “ it is only the nutritious juice of the plant.”---He adds, “ that, during the “ great heats, you perceive small drops of honey upon the leaves and branches “ of these shrubs; these drops harden, in grains about the bigness of coriander-seeds: they gather those of the *Albagi*, and make them into reddish cakes “ full of dust and leaves, which alter the colour, and lessen its virtue. This “ *Manna* is much inferior to the Italian. The ordinary dose is from 25 to “ 30 drams.”

Clusius † informs us, that the *Tereniabin* of the modern Arabs is gathered from a prickly shrub, such as the *Albagi* is described to be. Avicenna ‡, according to his present translation, tells us, that the *Tereniabin* falls *super lapides*; but Deusingius § says, that it ought to be read *super Albagi*; and that his translators were led into this mistake from the resemblance betwixt *Al-Hbagier* (the word in the Arabic text, and which signifies a kind of thorny plant, such as the *Albagi* is said to be) to *Al-Hagio*.

It is therefore evident, that the *Manna Persicum*, now before us, is the *Tereniabin*, *Terenjabin*, *Terræjenbin*, or more properly the *Terengjabin*, of the old Arabians, and of Clusius; the *Trungibin*, or *Trunscibil*, of the latter, of Rauwolf and Tournefort; very probably, the *Manna Mastichina orientalis* of Matthiolus and Bauhine; as it is the *Mastichina* and *Albagina* of Geoffroy; though this author makes the *Tereniabin* a species of *Liquid Manna* §, in complaisance to his countryman Bellonius; who, though in general a diligent observer, yet, in this case, was misled by the Caloyers, or Monks of Mount Sinai.

Bellonius says, in his Observations **, and more largely in his Treatise *de Arboribus perpetua fronde virentibus*, that these Caloyers collect a kind of liquid *Manna*, which they call *Tereniabin*; that this species was known in the shops at Cairo by the same name; and that this is the *Mel roscidum* of Galen, and the *Mel cedrinum* of Hippocrates.

I think it is very plain, that Bellonius was mistaken in the first part of his assertion, from what has already been advanced. The Caloyers told him, that they called it *Tereniabin*; and he takes it for granted, that it was the

* Tournefort's Voyage to the Levant, vol. i. p. 247, 248.

† Clus. Exotic. vol. ii. p. 164.

‡ Avicen. Oper. tom. i. p. 404.

§ Tract. de Manna, p. 19.

§ Tract. de

Mat. Med. tom. ii. p. 587.

** Bellonii Observ. apud Clus. p. 129.

Tereniabin of the old Arabians, contrary to their own accounts supported by the testimony of their successors, who are known to vary as little as any people whatever from the traditions and customs of their predecessors, and still retain a great many of their appellations. For proof of this, I need only refer to the accounts which Rauwolf, Tournefort, and Dr. Shaw, give us of those people.

That this liquid *Manna* was the *Δροσόμελι* seu *Λερόμελι* of Galen*, and the *Μέλι κέδρινον* of Hippocrates†, (supposing there is no mistake in the text), seems very probable. The description which Galen has left of the *Mel roscidum*, and the manner of collecting it on Mount Sinai in his time, tallies exactly with Bellonius's account; and thus far, I believe, all authors agree: but that the virtues of *Manna* were known so early as in the times of these two authors, will be difficult to prove.

Galen takes notice of this *Mel roscidum* more as a curiosity than a medicine. He no where, that I know of, mentions its use, or describes its qualities. He introduces the account of it with a *Memini aliquando*, and says, that the *Mel roscidum* was rarely met with in his country, but was gathered at Mount Sinai every year: and, indeed, from the manner in which it is spoken of by an old Greek writer in Athæneus, as cited by Salmasius, it would seem that it was only used for pleasure, as an agreeable sweet, *Melle ipso suavius*; and probably continued to be of no other use. Mesue tells us‡, that Galen mixed *Manna* with *Scammony*. In the spurious piece *de Dynamis*, ascribed to Galen, *Scammony* is ordered to be mixed with honey; but he never once mentions *Manna* in any of his extant writings. As Galen is known to be very minute in his account of the *Materia Medica* of that time, his silence is a strong argument against the supposition, that even the *Mel roscidum* was in pharmaceutical use, much less any other species of *Manna*.

If Galen was unacquainted with this substance, it is very probable that Hippocrates was so likewise; since a drug that must have made a considerable figure in his *Materia Medica*, would not have soon been struck off the list, or dropped into oblivion and disuse.

But how shall we get rid of the *Μέλι κέδρινον*; the name sufficiently intimating what substance was intended? Perhaps Foesius's suggestion may help us. He thinks, that the words might have been read with a comma intervening, whereby we should have had two distinct well-known substances, honey, and the resin of the cedar; two simples that were then, and continued long after, in familiar use; instead of one, which he mentions no where else, and seems to be unknown some ages after.

* Galen. de Alem. Facult. l. iii. c. 39.

† Hippocrat. de Ulceribus, p. 876. Edit. Foesii.

‡ Mesue de Simpl. c. 8.

Upon the whole, I have not hitherto met with evidence sufficient to induce me to believe, that either the *Mel roscidum*, or any kind of *Manna*, was in common medical use either with Hippocrates or Galen. Actuarius mentions it once *, and, as I know of, only once: he makes it a purgative, and to be somewhat stronger than *Cassia*.

It is now pretty generally known, that the *Mannas* in use are not a *Mel aerium*, or honey-dew, as was long believed, but a *Succus proprius* issuing out of some particular trees, at proper seasons, and in some climates only; and that, during the summer's heats, a great number of vegetables, in almost all the temperate countries, afford a juice somewhat a-kin to Manna, from whence the bee collects and prepares her honey. It may not, however, be amiss, nor very foreign to our subject, to exhibit a short account how the *Manna Officinarum* is collected.

In Calabria and Sicily, in the hottest part of the summer-months, the *Manna* oozes out of the leaves, and from the bark of the trunk, and larger branches, of the *Fraxinus*, or Calabrian ash. The *Ornus* likewise affords it, but from the trunk and larger branches only, and that chiefly from artificial apertures; whereas it flows from the *Fraxinus* through every little cranny, and bursts through the large pores spontaneously.

What is got from different parts of the tree acquires different names; the trunks generally afford those large white pieces to which we give the name of flaky; but the finest of all is such as is collected from artificial incisions, in which little straws, &c. are purposely placed in such a manner, as that the flowing juice may concrete upon them, and form those long, white, cylindrical, perforated pieces, which are so much valued.

This juice is secreted in the largest quantity betwixt noon and evening. In the night it is condensed, if the season is dry, otherwise the *Manna* is spoiled: they scrape off the small with wooden knives, early in the morning, and gather the larger flakes; both which are afterwards dried upon clean paper in the sun, till they stick no longer to the fingers; and the different sorts are then carefully packed up for use and exportation.

* Actuar. Method. Medend, l. v. c. 3.

SINCE the publication of the succeeding paper, some Gentlemen have with great humanity united together to promote the recovery of persons apparently dead, especially from drowning, well known by the name of the HUMANE SOCIETY; for the establishment of which, the public is particularly indebted to the activity and benevolence of Dr. HAWES.

This Society has published the proper methods of treating persons in these unhappy circumstances, and gives a reward of two guineas to the persons employed, if the case be unsuccessful, provided the person has not been more than two hours under water, and the methods laid down by the Society have been persevered in for the space of two hours. If the person recovers, the reward is four guineas.---The Society is supported by public subscription.

As the subject is interesting to the community and public at large, I have thought it not improper, briefly to subjoin the methods of treatment, found by the Society to be most successful on these occasions.

I. The body should not be rolled on the ground; or over a barrel, nor lifted up by the heels, or be any other way roughly handled or violently shook; but be removed to a convenient place, lying as on a bed, with the head a little raised, in as natural a position as possible.

II. The body, well wiped with a cloth, should be placed in a warm bed or blanket; but not too near a large fire. Bottles of hot water should be laid to the bottoms of the feet, joints of the knees, and under the arm-pits. A warming-pan moderately heated, or hot bricks wrapped in cloths, should be rubbed over the body, particularly along the back. The natural warmth of a healthy person, especially a child, lying close to the body, has been found very efficacious. The room should be kept open and airy, with few persons in it. The shirt of an attendant, or skin of a sheep freshly killed and warm, may be used to advantage. Should the accident happen in the neighbourhood of a warm bath, brew-house, bake-house, glass-house, saltern, soap-manufactory, or any fabric where warm lees, ashes, embers, grains, sand, water, &c. can be easily procured, it will be very proper to place the body in any of these, moderated to a degree of heat, very little exceeding that of a healthy person.

III. The body being placed in one or other of the above advantageous situations, various stimulating means should be immediately employed. The most efficacious are:---Blowing with force into the lungs, by applying the mouth to that of the patient, closing at the same time his nostrils:---Throwing the smoke of tobacco up the fundament into the bowels, by means of a clyster-pipe or fumigator; a pair of bellows may be employed till the others can be procured:---Rubbing the belly, chest, back, and arms, with a coarse cloth, or dry salt, so as not to rub off the skin; or with a flannel dipped in brandy, rum, or gin:---Applying spirits of hartshorn, vo-

latile salts, or the like, to the nostrils, and rubbing them on the temples frequently :--- Tickling the throat with a feather, to excite a propensity to vomit ; and the nostrils also with a feather or snuff, to provoke sneezing. The body should at intervals be shaken, and varied in its position.

IV. *If there be any signs of returning life, such as sighing, gasping, twitching, beating of the heart, return of natural warmth or colour, a spoonful of water may be administered, to try if the power of swallowing be returned ; if it be, a spoonful or two of warm wine, or brandy and water, may be given to advantage, but not before.*

Early bleeding has been found pernicious, and even fatal ; it is not always applicable, though it may sometimes be employed by a person of skill, to remove or prevent symptoms of inflammation.

The above methods of restoring life are applicable to various other cases of apparent sudden death ; whether from hanging, apoplectic and convulsive fits, cold, suffocation by damps or noxious vapours, proceeding from coal mines, confined air of wells, cisterns, caves, or from the must of fermenting liquors.

The Rules and Reports of this Humane Institution are printed, where they may be seen more at large.

Editor.

O B S E R V A T I O N S

O N A

CASE published in the last Volume of the *Medical Essays*, &c. “ of recovering a Man dead in Appearance, “ by distending the *Lungs* with Air. Printed at “ *Edinburgh*, 1744 *.”

Read before the ROYAL SOCIETY, February 21, 1745.

THERE are some facts, which in themselves are of so great importance to mankind, or which may lead to such useful discoveries, that it would seem to be the duty of every one, under whose notice they fall, to render them as extensively public as it is possible.

The case which gives rise to the following remarks, I apprehend, is of this nature. It is an account of “ a man, dead in appearance, recovered by distending the lungs with air; by Mr. William Tossack, Surgeon in Alloa;” printed in part ii. p. 605. vol. v. of the *Medical Essays*; published by a society of gentlemen at Edinburgh; an abstract of which will be sufficient in this place: those who desire an ampler account may consult the article itself.

A person suffocated by the nauseous steam arising from coals set on fire in a pit, fell down as dead: he lay in the pit, “ between half an hour and “ three quarters, and was then dragged up; his eyes staring and open, his “ mouth gaping wide, his skin cold; not the least pulse in either heart or arteries, and not the least breathing to be observed.”

In these circumstances, the surgeon, who relates the affair, “ applied his “ mouth close to the patient’s, and, by blowing strongly, holding the nostrils “ at the same time, raised his chest fully by his breath. The surgeon immediately felt six or seven very quick beats of the heart; the thorax continued to play, and the pulse was soon after felt in the arteries. He then

* Philosophical Transactions, N° 475. p. 275.

“ opened a vein in his arm; which, after giving a small jet, sent out the blood in drops only for a quarter of an hour, and then he bled freely. In the mean time, he caused him to be pulled, pushed, and rubbed, as much as he could. In one hour the patient began to come to himself; within four hours he walked home; and in as many days returned to his work.”

There were many hundred people, some of them of distinction, present at the time.

This is the substance of the account; from whence it naturally appears, how much ought to be attributed to the sagacity of the surgeon in the recovery of this person. Anatomists, it is true, have long known, that an artificial inflation of the lungs of a dead or dying animal will put the heart in motion, and continue it so for some time; yet this is the first instance I remember to have met with, wherein the experiment was applied to the happy purpose of rescuing life from such imminent danger.

Bleeding has hitherto been almost the only refuge upon these occasions: if this did not succeed, the patient was given up. By bleeding, it was proposed to give vent to the stagnating blood in the veins, in order to make way for that in the arteries *à tergo*, that the resistance of the heart being thus diminished, this muscle might again be put in motion.

But, in too many instances, we every day are informed, that this operation will not succeed, though the aperture is made with never so much skill; nor is it likely that it should: when the blood has lost considerably of its fluidity, the motion of the heart, and the contractile force of the solids, are at an end.

Chafing, rubbing, pulling, the application of stimulants, are too often as ineffectual as bleeding.

The method of distending the lungs of persons, dead in appearance, having been tried with such success in one instance, gives just reason to expect, that it may be useful to others.

It may be a proper enquiry, In what cases, and under what circumstances, there may be a prospect of applying it with success?

It will at once be granted, that when the juices are corrupted, where they are rendered unfit for circulation by diseases, where they are exhausted, or where the tone and texture of the solids is injured or destroyed, it would be extreme folly to think of any expedient to recover life.

But where the solids are whole, and their tone unimpaired by diseases, the juices not vitiated by any other cause than a short stagnation; where there is the least remains of animal heat, it would seem wrong not to attempt so easy an experiment.

This description takes in a few diseases, but a greater number of accidents. Amongst the first, are many of those which are called sudden deaths from some invisible cause; apoplexies, fits of various kinds, as hysterics, syncopes, and

and many other disorders, wherein, without any obvious pre-indisposition, persons in a moment sink down and expire. In many of these cases it might be of use to apply this method; yet without neglecting any of those other helps, which are usually called in upon these melancholy occasions.

It is not easy to enumerate all the various casualties, in which this method might be tried not without a prospect of success; some of them are the following:---Suffocations from the sulphureous damps of mines, coal-pits, &c.; the condensed air of long unopened wells, or other subterraneous caverns; the noxious vapours arising from fermenting liquors received from a narrow vent; the steam of burning charcoal; sulphureous mineral acids; arsenical effluvia, &c.

Perhaps those, who to appearance are struck dead by lightning*, or any violent agitation of the passions, as joy, fear, surprize, &c. might frequently be recovered by this simple process of strongly blowing into the lungs, and by that means once more communicating motion to the vital organs.

Malefactors executed at the gallows would afford opportunities of discovering how far this method might be successful in relieving such as may have unhappily become their own executioners, by hanging themselves. It might at least be tried, if, after the criminals have hung the usual time, inflating

* The following extraordinary instance of recovery, I have inserted from the Reports of the Humane Society for the year 1778, p. 83: it is one of those cases of recovery that cannot be made too extensively public.

Editor.

“ On Sunday night, July 5, 1778, at about half past ten, I was called to the assistance of
“ Peter Lucas, aged eighteen, apprentice to Mr. Hicks in White Lyon-street, Norton Falgate,
“ who was brought home upon boards, *to all appearance dead*, from a stroke of lightning. Upon
“ entering the room, and examining the body, I found him both stiff and cold, not perceiv-
“ ing the least warmth in any part of the body or extremities: his fingers and toes were con-
“ tracted, his eyes sunk, and his countenance livid. I immediately with assistance stripped off
“ his wet cloaths, and with all possible expedition placed him between blankets made very hot.
“ The assistants then used strong friction over the whole body. During this, I made a very
“ large orifice in the basilic vein, and procured by slow degrees near twelve ounces of blood. Vo-
“ latile and cardiac medicines were forced into the mouth, but for a considerable time to no ef-
“ fect, he being totally incapable of swallowing. Large blistering plaisters were applied to the
“ whole spine of the back, and to both the feet. In half an hour I procured about eight ounces
“ more blood; and by the repeated use of volatiles, together with the strongest frictions the whole
“ time, at about half past eleven I perceived a very slight convulsive motion of the diaphragm,
“ or hiccough; which was succeeded some little time after by a slight warmth and irregular
“ pulsation of the heart; and soon after by a very slow interrupted respiration. Before twelve
“ I perceived he began to swallow, and by steadily using the friction and volatiles for *an hour*
“ longer, a regular pulsation ensued; the lungs performed their office; and a gradual heat, and
“ recovery of every faculty succeeded. About *one* he spoke, though not articulately. In the
“ morning he was in a considerable fever, in great measure accounted for by the stimulus of the
“ blisters, and the medicines applied the preceding night: but by the use of antiphlogistic regi-
“ men,

flating the lungs in the manner proposed, would not sometimes bring them to life. The only ill consequence that could accrue from a discovery of this kind would be easily obviated, by prolonging the present allotted time of suspension*.

But this method would seem to promise very much in assisting those who have been suffocated in the water, under the above-mentioned circumstances; at least, it appears necessary to recommend a trial of it, after the body has been discharged of the water admitted into it, by placing it in a proper position, the head downwards, prone, and, if it can be, across a barrel, hog'shead, or some such-like convex support, with the utmost expedition.

It does not seem absurd, to compare the animal machine to a clock; let the wheels whereof be in never so good order, the mechanism complete in every part, and wound up to the full pitch, yet, without some impulse communicated to the pendulum, the whole continues motionless.

Thus, in the accidents described, the solids are supposed to be whole and elastic, the juices in sufficient quantities, their qualities no otherwise vitiated than by a short stagnation, from the quiescence of that moving something which enables matter in animated bodies to overcome the resistance of the medium it acts in.

Inflating the lungs, and by this means communicating motion to the heart, like giving the first vibration to a pendulum, may possibly, in many cases, enable this something to resume the government of the fabric, and actuate its organs afresh, till another unavoidable necessity puts a stop to it entirely.

It has been suggested to me, by some of my acquaintance, that a pair of bellows might possibly be applied with more advantage in these cases, than

“ men, together with occasional laxatives, he was restored to the enjoyment of perfect health
 “ in the course of a week. Upon the strictest examination of the body when first brought home,
 “ no external injury appeared, except a bruise along the right arm, which I presume he received
 “ either from the first fall, or at the time of being placed on the board for conveyance, either, I
 “ think, sufficiently accounting for such appearance. Upon being questioned as to what had
 “ happened, he knew nothing but from the testimony of his companion, who was not in the least
 “ affected. It appears that they had been at Islington, and were on their return caught in this
 “ storm near the turnpike at the London Apprentice, Hoxton; at which time the above Peter
 “ Lucas was struck down at the other's feet. It further appears from the best calculation, that
 “ before he (James Jaques) could procure assistance, to have him conveyed home, and make
 “ application to me, an hour at least must have elapsed, during all which time he was in
 “ very heavy rain.

“ I am, &c.

“ J. MILWARD.”

“ White Lyon-street,

“ Norton Falgate.

Reports of the Humane Society for the Year 1773.

* The Reports of the Humane Society furnish us with many instances of recovery of hanged persons, who had been apparently dead for a considerable time. Editor.

the blast of a man's mouth; but if any person can be got to try the charitable experiment by blowing, it would seem preferable to the other, for the following reasons: 1st. As the bellows may not be at hand. 2dly. As the lungs of one man may bear, without injury, as great a force as those of another man can exert; which by the bellows cannot always be determined. 3dly. As the warmth and moisture of the breath would be more likely to promote the circulation, than the chilling air forced out of a pair of bellows.

To conclude, as I apprehend the method above described may conduce to the saving a great many lives, as it is practicable by every one who happens to be present at the accident, without loss of time, without expence, with little trouble, and less skill; and as it is, perhaps, the only expedient of which it can be justly said, that it may possibly do great good, but cannot do harm; I thought it of so much consequence to the public, as to deserve to be recommended in this manner to your notice. For though it is already published in a work which is generally read by the faculty; yet, perhaps, it may be overlooked by some, forgot by others, and perhaps, after all the care that can be taken, it may never come to the knowledge of a tenth of those who ought not to be ignorant of it.

P. S. As the representation of an extraordinary fact may perhaps induce some to try the experiment, when occasions like those which are specified in the above remarks occur, it is hoped, that humanity will prompt all such to favour the public with an account of their success, with the principal circumstances that attended. And, as the writer of these remarks has embarked in the design of rendering this fact diffusively known, he would be glad to have it in his power to inform the public, that numerous experiments confirm what this case suggests, viz. the possibility of saving a great many lives, without risking any thing.

White-hart Court,

Gracechurch-Street,

September 1744.

De Diaphragmate fisso, et mutatis quorundam Viscerum
Sedibus, in Cadavere Puellæ decem Mensium obser-
vatis ; Epistola *

RICHARDO MEAD
JOANNES FOTHERGILL, S.

QUUM non ita pridem de casu quodam, ut mihi videbatur, omnino singulari, coram te verba facerem, ipse auctor eras, vir clarissime, ut integram rei historiam literis consignarem. Consilio igitur tuo morigerus opus aggressus sum ; eoque lubentius, prout mihi persuasum est, id minus ingratum multis fore, si in publicum prodiret, quod tibi privatim non displicuisset. Tantum siquidem et merito ab omnibus tribuitur illius auctoritati, cui nihil antiquius, optatius nihil, quam bonis quibuscunque artibus, de civibus suis, de humano genere, optime mereri. Quo autem clarius tota res patefcat, ab ovo, uti dicitur, exordiri animus est, eorum omnium historiam exponens, quorum testis eram, fide, simplicitate, quâ possim, maximâ.

Fœmina generosa 21 circiter annorum, tam ingenio acri et vivido quam forma spectabilis, habitus proceri et gracilis, temperiei ad sanguineam vergentis, firma satis, ut plurimum, sanitate felix, quinto post conceptionem circiter mense, primò prægnans abortum fecit.

Magno suo malo id ei contigit, dum in cognati villâ longe a suis dissitâ hospitio excipitur. Proxima, re jubente, obstetrix advocatur, quæ artis cum primis ignara, et duris tantummodo rucolarum ilibus assueta, uterum tenellulæ eousque duriter tractavit, ut ex vasis laceratis immane adeo sanguinis profluvium exciverit, quantum ars sistere non valuit, usque demum donec gravissima superveniens *Leipopsychia* tam fluidorum motum, quam solidorum vim, impræsentiarum sustulit.

Tandem vero revixit, atque ita convaleuit, ut *ore ac membris in pallorem al-
bentibus, ostentui esset multum vitalis spiritus egestum.*

* Philosophical Transactions, N° 478, p. 11. Read before the Royal Society, June 16, 1745.

Ex tantis autem malis vix, et ne vix quidem eluctata est, antequam de novo fit gravida. Miseram vero sortem, quâ per totum graviditatis decursum affligatur, referre piget; gravissima namque mala, quæ uterum gerentes exercere solent, hæc nostram et pessime exercuerunt.

Puellulam tamen et suo tempore enixa est, cujus ad historiam, rebus maternis feliciter compositis, quoad morbos, mortem, et cadaveris sectionem, pertinuerit, referendam me accingo.

Recens natæ forma culpa omni carere videbatur: parvula erat et pusilla, cujusque cutis justo flaccidior, et aliquatenus rugosior, se suo nutrimento parcius potitam testabantur; quod nemini matris historiam pensitanti mirum videbitur.

Respiratio a principio ei erat justo paullulum frequentior, paucisque post diebus accedit, tanquam a correpto frigore, gravedo, cum ingenti laticis mucosi ex ore, et oculis, et naribus profluvio, quod quoties ubera nutricis ducere coacta est, fere spiritum infanti præcludit. Et hinc sæpius lachrymæ, hinc etiam iræ, graviores quidem quam adeo teneræ ætati contingere solent quæque sæpius præsentibus metum injecerunt, ne, cum furore brevi, simul et extremum halitum efflaret.

Commodis vero medicamentis, alvum præcipue leniter ducentibus, a gravedine utcunque liberari videbatur: viribus etiam cum mole pedetentim auctis, in spem adducti sunt parentes olim delicatulæ sanitatem magis constantem fore.

Sæpius tamen quam in plerisque aliis infantibus solet, ex improvise vomitio eam corripit: ejecta nec cibum crudum referunt, nec coctum, sed pulvem quasi purulentam, interdum acidum, sæpe fetidum redolentem: dejectiones etiam justo frequentiores et ejusdem omnino indolis erant. Respiratio interim frequens, laboriosa, noctuque difficillima. Hæc eo magis integræ salutis spem minuebant, quo minus auscultabant remediis, quæ in hujusmodi malis plerumque opem ferre solent.

Septimo tandem circiter mense, exanthemata quædam sive tubercula per faciem imprimis, deinde per collum, humeros, thoracem, et ad extremos manuum digitos, disseminata sunt. Erant rotunda, pulicum instar morsûs lata, rubentia, duriuscula, pruritu molestissima, sensim in vesiculas parvas, sero tenui pellucido tandem repletas, elevata: quæ in squamas furfureas tandem exsiccata, decidebant, relictis vestigiis livido-rubellis diu permanentibus.

Hæc in conspectum venerunt paucorum post dierum febriculam; quum vero neque ortu, neque decessu justum aliquem typum servaverunt, pruriebant demum insensissime, et nova semper seges demessam subsecuta est, diuturnum fore malum existimabam, altiusque radices egisse, quam quæ febre inordinata eruendæ forent: quumque exanthematum prorumpentium vis atque pruritus indies augeretur, ab impuro aliquo hospite, vitium humoribus inferente, morbum

bum incrementa capere putabam. Ad purgantia itaque mitissima, acidum aut acre obtundentia, eaque quæ ad viscidum solvendum apta viderentur, confugi; et ne forte victûs ratio, quanquam nutrici optime, minus tamen molli alumnulæ competeret, utrasque non nisi jusculis, carnibus tenerrimis, et id genus coctu facillimis alendas jussi. Hinc tuberculorum numerus, pruritus, cæteraque mala brevi diminuta fuerunt; atque dubia hucusque salus quodammodo stabilita.

Decimi vitæ mensis initium attigerat, quum parentum jussu nutrix parvulam ablactare satagit. Hoc sine magna molestia tulit: die sexto, propter alvum paulo astrictiorem, assuetum sibi solutivum hausit, unde bis dejecit, et bene se habuit.

Sub vesperam enormi vomitione corripitur, ex nulla quantum patuit causa oriunda, quæ sine ulla fere intermissione misellam laceffebat, donec tragœdiâ per 24 horas circiter actâ, vitæ brevis scenam clausit.

Cuncta, quibus usa est medicamenta, singulatim referre haud opus est. Tam notis plerisque, quam novis auxiliis, intus, foras, novo et pertinaci malo obviam itum est. Præ aliis per totum vitæ (nam et idem erat morbi terminus) decursum, profuerunt tinctura rhabbari ex aqua cinamomi tenui parata, parca et sæpius repetita dosi exhibita; et linctus ex oleo amygdalino, syrupo pectorali et sapone paucissimo confectus. In ipsis vero extremis angoribus ad vomitum sedandum adhibita sunt ea quæ acidum aut acre temperare, obtundere solent; aromata grata, mitissima, anodyna, demum et ipsa soporifera, at frustra omnia: alvus interea nec sponte soluta est, neque ullis cessit irritamentis.

Atrocis morbi causas atque sedes rimari animus erat; quod, impetrata venia, postridie aggredior; priusquam vero ad dissectionem manus admoveo, præcipuorum symptomatum conspectum, quibuscum à carceribus ad metam usque colluctabatur, coram sistere haud forte absonum videbitur.

1. Pulsus nunquam non turbatus erat, parvulus, tremulus, frequentissimus.
2. Respiratio semper naturali crebrior, noctu quam interdiu difficilior.
3. Id quoque observandum, quo laxior amictus, etiam interdiu, eo crebrior respiratio; quanto vestis arctior thoracem et abdomen cingens, tanto erat respiratio naturali similior.
4. Decumbenti etiam eadem actio difficilior; inde evenit, ut postquam primum carpisset somnum, cætera noctis pars plerumque sedenti in gremio nutricis abiit.
5. Tussis, inquietudo, febricula, plus minus, dum ad sanitatem proxime accedere visa est, noctu aderant, et semper quam interdiu molestiores.
6. Vomitiones frequentes sine causa evidenti sæpius eam fatigabant: egesta, cruda, et varia; nunc acida, nunc putrescentia, subpinguia, fetida.
7. Dejectiones sursum egestis simillimæ.

8. Carnium quolibet modo præparatarum odor, vomitiones crudeles haud raro ciebat; tanto tamque infelici sensu prædita erat.

9. Quoties alvus astrictior, toties major aderat ad vomendum proclivitas; at ventris fluxus quandoque enormis et diuturnus plus damni intulit, quam vomitio.

10. Urinam insigni imbutam esse acrimonia docuit odor, spiritus instar urinosi plerumque acris: linteamina colore flavo tangebantur.

11. Et cutis quandoque simili tinctura suffusa est.

12. Humor iste, qui pone aures infantum excerni solet, in nostra etiam maxime fetidus erat.

13. Ingenium ei erat mite, placidum, et malorum patiens: si quando autem accensa esset ira, mirum quantum excandesceret: pari tamen celeritate extinguebatur, alioquin a suffocatione illico periisset.

Crederet, opinor, unusquisque rerum medicarum gnarus, ex historia jam tradita morbum esse insolitum; vim ventriculi imprimis labefactatam; turbatas secretiones, vitiatum sanguinem, pulmones male functos officio; forte et hepar culpa non caruisse. Quis vero unquam conjecturis affecutus esset divisum fuisse septum transversum; per ejus rimam in ipsa pectoris penetralia ventriculi amplam portionem et intestinorum partem insignem irrupisse? Hæc vero et plura docuit ipsa cadaveris dissectio, quam postero mane, comite H. Delanoy Pigot, chirurgi Wandsworthiensis perito, institui.

Corpusculum exsuccum, et mirum in modum unius *Νυχθημέρας* intervallo exinanitum lustramus. Quoad partium formam et magnitudinem omnia recte, nisi quod thorax naturali longior videretur et angustior: costæ siquidem, minus quam solent obliquè positæ, ad corporis axin rectius spectabant.

Ilia sinistra livor occupaverat, tanquam gangræna fuissent affecta: circa humeros et brachia haud paucae vesiculæ cernebantur; quarum aliæ liquore rubello, aliæ viridescenti, flavescenti aliæ scatebant.

Divisam cutem, musculosque tenues subtus jacentes, tunica cellularis omnino adipe vacua intercurrebat.

Ventre aperto, inferior omenti margo ne vel minima fæta pinguedine, vixque ad umbilicum protensa in conspectum venit. Intestinorum etiam tenuium portio, imusque ventriculi fundus; deinde hepar magnum pallescens; sub cujus costa latebat vesica fellea, ampla, turgida, fundo sursum, cervice deorsum rectius quam in sanis solitum spectante. Hæc forcice reclusa bilis spissæ, nigricantis ferme sescunciam effudit: at quanquam ex plaga patula haud sine pressura; usque adeo crassa tenaxque erat. Vicina omnia summa flavedine tangebantur. Ileum intestinum hinc inde inflammari videbatur: Colon suo loco abfuit: splen, renes, reliqua, sana.

Rescissis deinde cute musculisque, cautè sternum ad jugulum usque dividimus. Ast diductis plagæ marginibus, spectaculo, quantum novi, nunquam

antea

antea visō, percellimur. In sinistrum quippe pectoris antrum, magna ventriculi portio sese intruserat, tam pulmonum lobos, quam ipsum pericardium, et in eo cor, ex integro abscondens.

Diducto tandem ventriculo, quid subtus lateret inspecturi, ilei partem tres circiter palmas longam; cæcum, ejusque appendicem, una cum coli portione haud parvâ, omnia uno eodemque tecta hospitio detegimus.

Rei novitate commotus, omnia rursus intueor; anceps ne forte vulnus inter secandum diaphragmati inflictum visceribus portam aperuisset. At inspectio quam maxime accurata dubium omnino sustulit; docuitque id olim fissum, divisum vel perruptum fuisse: nam septi hiantis margines perfecte occalluere; neque ullibi conspicienda erant plagæ recentis indicia.

Quum itaque constabat nullam a nobis diaphragmati illatam fuisse vim, cuncta in locis quibus antea collocata erant studiose reponimus, singulatim omnia et adhibita diligentia lustraturi.

Septum transversum ab ossæ sterni, et cartilaginibus antè diremptum, et ad centrum usque tendinosum, divisum, retractumque, arcum lunatum tensum formaverat; cujus cornua ad costarum fines cartilaginosos, dextro latere sterni propius, remotius sinistro; pertingebant: sicque sinus effectus est inæqualis, sinistro quàm dextro latere patentior.

Per hunc amplum sinum, sublata viscera, in sinistro thoracis angulo, inter costas et cordis apicem tutas adeo adepta sunt latebras, ut neque proprio pondere, neque valida succussione, neque mutato, quacunque demum ratione, corporis situ, in pristinas sedes unquam deduci potuisse judicabam: In *pristinas* dico, quoniam primitus ante partum sic sita fuisse haud temere credendum est. In ipso etenim partu malum accidisse, plurima sunt quæ, ut ita credam, faciunt.

Saccus ille ventriculi, qui ingesta per oesophagum immediate accipit, multo quam solet amplior, suum locum obtinebat; solito etiam pallidior et tenuior: reliqua pars sursum protrusa, deinde oblique retrorsum, supra septi arcum elevabatur; in ipso tamen transitu a margine septi angustatum notavimus.

Has tandem emensus fauces in amplum satis utriculum rursus excrevit; qui arcuato septo, tanquam scamno incumbens, omnem pectoris sinistri ambitum sibi vindicabat. Corculum interea, nam tale revera fuit, supra ipsam dorsi spinam detruferat; pulmonumque lobos ejusdem lateris eousque coarctaverat, ut omnino sedibus pulsos, aut nullos fuisse, pene crediderimus.

Pylorus ex hoc utriculo juxta tertiam costam emergens, et sinuosâ flexura deorsum vergens, in duodenum abiit; quod, qua parte septi jugum in descensu transivit, et ipsum coangustari debuerat, quotiescunque ventriculus aut cibis aut flatibus intumuit. Quumque ita a naturali cursu devium aberrare necesse habuit, nil mirum si ductus communis biliaris, a recto intestini itinere tensus

et fere connivens, suo semper munere fungi non poterat: hinc cutis, hinc urina quandoque discolores; et hinc sine bile dejectiones.

Tubi intestinalis anfractus presse sequentes iterum in thoracis antra ducimur: nam supra ipsum diaphragma, et pone ventriculum, portio ilei aliquot palmas longa convoluta delituit: exitum finemve quærentibus in conspectum venit appendix vermiformis, et cæcum fecibus distentum, amplum, incumbente ventriculi mole compressum, ejusque nifu extremo antri angulo adaptatum: denique annexa coli pars circiter dimidia, crebris et profundis sinibus notabilis.

Qua parte colon tensum septi limbum superabat, id tantum non abscissum invenimus; nam ventriculus sæpius repletus, cedentis intestini latera contra membranæ renitentis marginem obfistens, ea ita attriverat, seu premendo angustaverat, ut ne quidem fecibus crassioribus trajiciendis aptum videbatur.

His demum attente perspectis, cætera ejusdem cavi contenta exquirere satagemus; et sub firma tectos membrana, quam mediastini parietem esse sinistrum judicavimus, pulmonum lobulos detegimus, arctissime posticæ thoracis regioni undique non adhærentes modo, at firmiter agnascens dudum officio suo defuisse videbantur. Plexus præterea fibrarum validus, ex membrana cellulosa quasi contextus, totam lobulorum compagem, pleuræque superficiem sic intercedebat, ut nulla ratione seipsos expandere valerent pulmones, si a tergo liberum movendi spatium permisissent intestina et ventriculi portio.

Alterius deinde lateris cavum excutimus, et pertusa membrana firma, quam pro altera mediastini plica habuimus, pulmo dexter sanus satis et integer sese prodidit; quique proculdubio utriusque munere diu perfunctus est.

Paulo infra pulmonis marginem inferiorem, supra diaphragma, sacculus erat quasi ex membrana cellulari conflatus, qui, forfice apertus, binas circiter uncias liquoris flavo-viridantis, albuminis instar gelatinosi, loculamentis membranaceis contenti, profudit. Num ex hoc fonte profluxerat ista sanies, quæ indomabilem tuberculorum vim, faciem, collum, cæterasque partes sedantem, enutriverat? Ita quidem verosimile videtur; nam liquidi in utrisque color idem erat.

Pericardium proxime referatur, quod et ipsum liquore simili scatebat: effluxit quippe ex apertura ad duas fere uncias humor descripto, modo paululum tenuior magisque flavescens, simillimus.

Cor erat exiguum, tactui durum, et in bina æqualia quasi loculamenta discretum: hic enim auricula dextra sanguine distenta, vix cordi magnitudine cederet; ibi ventriculi cruore atro pauco crassissimo farcti: inter utrosque vinculi partes agunt vasa coronaria, cordis basin arcte adstringentia.

Ex secta auricula cruor aterrimus, spissus, corio tenaci opertus exprimitur; ipsius sacci latera ex venulis varicosis livescens tantum non constare videbantur.

Sæpius

Sæpius inter secandum tam casu, quam dedita opera, majores venas pertudimus, at nunquam alias, tam parum sanguinis effluxisse memini, isque erat crassus et niger, tanquam fero omni et diluente lymphæ orbatus.

Lustratis jam et sua sede visceribus, ventriculum eximere partemque intestinorum libitum est, ut quantum ad formam situmque mutata essent, exploratum haberem: dum vero manus operæ admoveo, leniterque ventriculi fundum prehendo, ecce omnino putris, et ne tactus quidem levis patiens, pars ima intra digitos collabascit.

Nulla aderant inflammationis gangrænosæ indicia: non rubor, non striz, nulla stigmata livescencia: omnis albore pallet, et sic tam nulla vi in tabem desinebat, ut potius acribus erosam, vel humidis laxatam fuisse compagem, quam gangræna corruptam judicarem.

Nec intuenti ventriculi situm hoc absconum videbitur. Heic enim ex imo visceris hujus fundo, ad summum pylori jugum, ascensus omnino acclivis: in nostra etiam sublata erat vis septi renitens, cujus ope in altum attolli unice valuerant ventriculi contenta: plus itaque laboris musculis ventris solis peragendum erat, quod quam in aliis peragitur, sociato diaphragmatis nixu. Ingesta proculdubio suam sequi indolem, favente mora et quiete debuerant; quibus conditionibus si addamus perpetuum humoris gastrici stillicidium in unum quasi ventriculi punctum, tam vomitus funesti ortum, quam putredinis causam perspectam habere possumus.

Hinc quoque manifestum erit, quare noctu quam interdiu, procumbens quam erecta, laxè quam arctè vestita, pejus se habuit: et quantas anxietates, ægritudines, et molestias, pati oportuit, quoties situs horizontalis, habitusque parum strictus, ascensum facilem cibis in pectora præbuere? Cor ipsum mole prægravari necesse erat; luctamque dubiam contra hostes irruentes solum sustinere.

Tradita hucusque rerum historia symptomatum explicationem promptam, nisi fallor, reddidit, ideoque mihi supervacaneam: superest tantum modo, ut aliqua, quæ in mentem mihi sæpius morbum immedicabilem pensitanti venerunt, at paucissimis, referam.

1. Patet enim imprimis, animal posse vivere, vegere, lætari, et quodammodo valere, cui finditur vel disrumpitur diaphragma.

2. Ideoque minus huic metuendum, in pectore pertundendo, quoties empyema aut hydrops remedium anceps experiri suadeant.

3. Ita affectum esse diaphragma, (1.) si ampla hiansque plaga fuerit, forte dignoscendum, ex ipsa thoracis figura productiore, minus obliquo costarum situ, et læsa simul respiratione.

4. In morbis infantum, quorum natura videatur reconditior, ex accurata partium externarum contemplatione, indagine, fortassis aliquid lucis elici queat: ideoque nequaquam prætermittendum.

5. Quotiescunque tubercula, pustulæ exanthemata, singularem aliquam corporis regionem occupant, ibi subtus, in vicinia, malum fomitem latere suspicandum.

Ita tandem casum, nulla arte sanabilem, et forte nimia diligentia exposui; id vero ægre te laturum haud quidem existimo: nollent enim nescire cordatiores in arte viri, quibus ex causis præmatura mors superveniat, quotiescunque cadavera lustrandi copia conceditur: ipsos etenim medentes non solum rerum gnaros peritosque reddit, verum etiam tam orbatis dolorem minuit, quam dedecus aufert arti, palam perspectum habere, nullis remediis, nulla ope, ne quidem tua, supremam sortem potuisse protrahi.

Vale, vir candide, diuque felix orbi interfis, bonarum artium patronus, medicæque juventutis pater atque princeps.

T R A N S L A T I O N

O F

A L E T T E R

O N A

*Ruptured Diaphragm, and a Change in the Situation of
some Viscera, observed in the Body of a Female Child
Ten Months old;*

ADDRESSED TO

R I C H A R D M E A D.

WHEN I lately made mention, in thy presence, of a case which appeared to me altogether singular, thou advisedst that I should commit the whole history of it to paper: I have therefore attempted to comply with thy advice; and this I have done the more willingly, as being certain, that what had not displeased thee in private, would be agreeable to many if made public. Thus much will certainly be attributed, and that with justice, to the authority of a man; whose dearest object and strongest wishes are, to deserve well of every useful art, of his fellow citizens, and of human-kind in general.

But that the case may appear more clear, I intend to commence my history from the first origin of it, giving a relation of every thing I was witness of, with all the fidelity and simplicity in my power.

A woman, about twenty-one years of age, of a genteel family, respectable both for her keen lively wit and agreeable person, of a tall slender habit, a temperament verging towards the sanguineous, generally happy in moderate health, miscarried, about the fifth month of pregnancy of her first child.

Unfortunately for her, this happened while she was on a visit to a relation, in a village far distant from her friends and home. The case being urgent, the nearest midwife was called in; who being in great measure ignorant

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of the art, and only used to the robust women of the country, treated the uterus of this delicate person so rudely, that she excited from the lacerated vessels an hæmorrhagy, or flooding, so violent that no art could stop it: at length a most alarming *syncope*, or fainting, supervened, which, for the present, both took off the motion of the fluids and the action and force of the solids. After some time, however, she revived, and at length recovered, but in such a manner, that the paleness of her face and limbs evidenced great loss of the vital spirits.

She was scarcely recovered from these great misfortunes, when she again became pregnant; but it would be melancholy to relate her miserable condition through the whole course of her pregnancy; all the most dangerous complaints which usually afflict pregnant women, afflicted our patient in the worst degree.

At the proper time, however, she was brought to bed of a girl; whose history, with respect to diseases, death, and opening the body (the circumstances of the mother having terminated happily) I now undertake to relate.

The body of the new-born infant seemed free from fault: it was, however, little and weakly; its skin too flaccid, and somewhat too much wrinkled, which evidenced its having received too little nourishment; but no one will wonder at this, who considers the history given of the mother.

The respiration of the infant was too frequent from its birth, and a few days after came on a stuffing and heaviness of the head, as if from having caught cold, with a considerable excretion of a watery mucus from the eyes, nose, and mouth, which, as often as it was obliged to suck, almost threatened suffocation. On this account it would cry, and go into more violent passions than is usual at so tender an age; so that the attendants would often fear, lest in a short gust of passion it should expire.

By proper medicines, especially gentle laxatives, it seemed in some measure freed from the cold and stuffing of the head: strength also gradually increased as it grew bigger, and the parents were induced to hope, that the health of their little delicate daughter would now become more strong and firm.

The infant was seized with a sudden vomiting, more frequently than is common to most other children; the matters thrown up, neither resembled crude nor digested food, but a kind of purulent pap, sometimes acid, sometimes of a fœtid smell; the stools also were too frequent, and exactly of the same kind of matter: the respiration in the mean time frequent, laborious, and during the night extremely difficult. These symptoms were the more discouraging, as they did not yield to remedies which usually give relief in similar complaints.

About the seventh month some exanthemata or eruptions appeared, first on
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the face, then on the neck, shoulders, breast, and to the ends of the fingers. They were round, broad, like flea-bites, red, hardish, and extremely troublesome, with itching; by degrees they were raised into little vesicles, and at length filled with a thin pellucid serum: being dried into chaffy scales, they fell off, leaving marks of a livid red colour, which remained a long time.

These eruptions had appeared after a fever of a few days continuance; but as they observed no regular type either in their coming on or going off, as the itching was extremely troublesome, and a new crop always succeeded the old one, I concluded the disease would be of long duration, and had taken a deeper root than what could be accounted for from an irregular fever; and as the force and itching of the exanthemata coming out, daily increased, I supposed the disease derived its increase from some impure matter lodged within, vitiating the humours. I therefore applied to the mildest purgatives, such as would obtund the acid or acrid matter, and those which seemed proper to resolve the viscid. And, lest the manner of diet, though the most proper for the nurse, should not so well agree with the tender infant, I ordered both of them to eat nothing but broth, the most tender animal food, and such as was of most easy digestion. By this means the number of tubercles, the itching, and other complaints, were in a short time diminished, and the health of the infant, hitherto doubtful, was in some measure established.

It had reached the beginning of the tenth month of its age, when the nurse, by order of the parents, began to wean it. It bore this without much inconvenience; on the sixth day, being costive, it took its usual solutive draught, from which it had two stools, and was well. Towards evening it was seized with a most violent vomiting, arising, so far as could be perceived, from no cause; but which harraressed the little sufferer, almost without intermission, for the space of twenty-four hours, and then closed the scene of a short life.

It is not necessary to mention singly all the remedies made use of. This new and obstinate disease was opposed, both by most known remedies and some new ones, internal and external. Through the whole course of life (for this was the terminus of the disease) the tincture of rhubarb, made with weak cinnamon-water, and given in small doses often repeated; and a linctus made of oil of almonds, pectoral syrup, and a little soap, were more useful than any other remedies. In the last fatal struggles, the most mild, grateful aromatics, anodynes, and even soporific medicines, which usually moderate and obtund the acid or acrid matter, were exhibited in order to take off the vomiting, but all in vain. No spontaneous motion to stool now occurred, nor did the bowels yield to any stimulating remedies.

I had a wish to search out the causes and seat of this violent disease; and having obtained permission, I attempted it the next day. But before I enter

upon the dissection, it will not be amiss, perhaps, to bring into one view the principal symptoms under which the infant laboured from first to last.

1. The pulse was always disturbed, small, tremulous, and very frequent.
2. Respiration was always quicker than natural, and more difficult in the night than the day.
3. It must be observed also, that even in the day-time, the respiration became more difficult, in proportion as the cloaths were put on more loosely: and the more tightly they bound the breast and belly, the more natural was the respiration.
4. The action of breathing also was more difficult when lying; hence it happened, that, after the first sleep, it commonly spent the rest of the night sitting in the bosom of the nurse.
5. When the child seemed in its best state of health, it was afflicted in the night, more or less, with cough, restlessness, and feverish heat; and these were always more troublesome in the night than the day.
6. It was often distressed with frequent vomiting, without evident cause: the matters thrown up were crude and various; sometimes acid, sometimes putrescent, fatty, or foetid.
7. The discharges by stool were like those thrown up by vomiting.
8. It was endowed with so strong and unhappy a sense of smelling, that the smell of animal food, any-way prepared, often excited severe vomitings.
9. Whenever it was costive, there was a greater tendency to vomit; but a diarrhoea, sometimes violent and continuing long, did more harm than vomiting.
10. The urine was affected with great acrimony, as appeared by the smell, which was commonly acrid, like the spirit of urine: it tinged cloths of a yellow colour.
11. The skin was sometimes covered with a similar taint.
12. The humour commonly excreted behind the ears of infants, was also in this extremely foetid.

13. Its disposition was mild, placid, and patient under sufferings: but if at any time its passion was kindled, it rose to a wonderful pitch; the passion, however, was extinguished with equal celerity, otherwise it would immediately have perished from suffocation.

Every one skilled in medicine, I think, will suppose, from the history now given, that the disease was a new one; that the powers of the stomach especially were debilitated, the excretions disturbed, the blood vitiated, and that the lungs did not properly perform their office; perhaps also they may suppose the liver had not been free from fault. But who would ever have conjectured that the *septum transversum* was divided asunder, and that a large

portion of the stomach, and great part of the intestines, had rushed through this opening into the cavity of the breast? Yet this, and even more, the dissection of the body discovered to us; which the next morning I performed, accompanied by H. Delanoy Pigot, a skilful surgeon of Wandsworth.

We found the body shrivelled, and wonderfully shrunk, in the space of twenty-four hours. As to the figure and magnitude of the parts, every thing was right, except that the breast seemed longer and narrower than natural. The ribs, indeed, were not so obliquely placed as usual, but lay too flat towards the axis of the body.

The left iliac region was of a livid colour, as if it had been affected with gangrene: many vesicles were visible about the shoulders and arms, some of which contained a reddish, some a greenish, and others a yellowish liquor.

Having cut through the skin and thin muscles lying underneath, we found the *tunica cellularis* quite free from fat.

The belly being opened, we found the lower margin of the omentum wholly free from fat, and scarcely reaching to the navel. A portion also of the small intestines, and the lowest part of the stomach, were visible; next we observed the liver, large and pallid; under the side of which lay concealed the *vesica fellea*, large and turgid, the bottom lying more directly upward, and the neck more directly downward, than what is usual in healthy persons. This being opened with the scissars, it was found to contain nearly an ounce and an half of a thick blackish bile; but though the wound was open, it was too thick and tough to run out without pressure. The neighbouring parts were all tinged of the deepest yellow; the ileon seemed here and there inflamed; the colon was removed from its proper place; the spleen, kidneys, and other parts, were found.

Having again cut through the skin and muscles, we cautiously divided the *sternum* up to the *jugulum*. But, the edges of the wound being drawn aside, behold! a sight, never, that I know of, before seen. A great portion of the stomach had thrust itself into the left cavity of the breast, wholly covering the lobes of the lungs, the pericardium itself, and in it the heart.

Having drawn aside the stomach, to see what might be concealed under it, we found a part of the ileon, about three times the breadth of the hand, the cæcum and its appendage, together with no small portion of the colon, all concealed in one and the same cavity.

Struck with the novelty of the thing, I again examined the whole; doubtful lest a wound made in the diaphragm, in dissecting the body, might have opened a passage to these viscera. But an inspection, as accurate as possible, removed all doubt, and convinced me that the diaphragm had been split, divided, or ruptured for some time; for the edges of the rupture were perfectly

perfectly hardened, nor were there any marks of a recent wound any where to be seen.

As therefore it appeared that no injury had been done to the diaphragm by us, we carefully replaced all the parts in the situation they had been in before, that we might examine them one by one with proper attention.

The *septum transversum* being torn off from the *os sternum* and cartilages on the anterior part, and divided and drawn back to its center, had formed a tense lunar arch; the corners or horns of which, on the right side, reached nearer the cartilaginous terminations of the ribs; on the left they were more distant; and thus there was an unequal sinus formed, more open on the left than on the right side.

The viscera having been carried upward through this ample sinus, had gained so safe a seat in the left angle of the breast, between the ribs and apex of the heart, that I judged it impossible that they could ever have fallen back into their *pristine* situation, either by their own weight, or any shaking or change in the posture of the body, in whatever manner this had been made. I say their *pristine* situation, because we are not hastily to suppose that they were in this situation before the birth of the child. Many reasons induce me to believe that the mischief happened in the birth.

The bag of the stomach, which immediately receives the ingesta from the œsophagus, was much wider than usual, and also paler and thinner, but remained in its proper situation. The other part, being pushed upwards, and then obliquely bent backward, was elevated above the arch of the septum: in this passage, however, we observed that the margin of the septum had made that part of the stomach narrower, *or formed a kind of stricture upon it.*

Having passed these straits, it was again enlarged into a bag sufficiently capacious, which lay upon the arcuated septum, as on a bench, and occupied the whole space of the left breast. It had thrust the little heart, for such it really was, upon the spine of the back, and had so straitened the lobes of the lungs on that side, that one would almost have thought they had been driven from their situation, or that there had been none at all.

The pylorus emerging from this bag near the third rib, and bending downward with a sinuous flexure, ended in the duodenum; both of which must have been straitened or constricted, in the part where it passed over the ridge of the septum, as often as the stomach had been swelled with food or wind. As therefore the duodenum had been under a necessity of deviating from the natural course, it is no wonder if the common biliary duct, bent from the strait line of the intestine, and almost closed, had not always been able to perform its office: on which account the skin and urine were sometimes discoloured, and discharges by stool, without bile.

We closely followed the winding tract of the intestinal tube, and were again
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led into the cavity of the thorax: for a convoluted portion of the ileon, some hands breadth in length, lay concealed above the diaphragm, and behind the stomach. Searching for its exit or end, we found the vermiform appendage, and the cæcum distended with fæces, large, and compressed with the incumbent load of the stomach, by the motion of which it was adapted to the extreme angle of the cavity. About half the colon, annexed to it, was remarkable for frequent deep sinuosities.

Where the colon had stretched beyond the tense border of the septum, was the only part of it we found not cut and worn; for the stomach, often full, pressing the sides of the yielding intestine against the edge of the resisting membrane, had so worn or constricted it by pressure, that it seemed by no means suited to admit the thick fæces to pass through it.

These being at length attentively viewed, we set ourselves to examine the other contents of the same cavity; and under a firm membrane, which we took to be the left side of the mediastinum, we found the lobules of the lungs concealed, and every where not only closely adhering to the posterior region of the thorax, but firmly growing to it, so that they seemed long to have failed in performing their function. A strong plexus of fibres also, formed as it were of the cellular membrane, connected the whole structure of the lobules and superficies of the pleura, so together, that the lungs could by no means have expanded themselves, if the intestines and part of the stomach had left a free space behind.

We next examined the cavity on the other side; and, having cut the firm membrane, which we took to be the other folding of the mediastinum, the right lung appeared sufficiently sound and compleat; and which, no doubt, had long performed the office of both.

A little below the inferior edge of this lung, above the diaphragm, was a bag, formed as it were of cellular membrane, which being opened with the scissars, was found to contain about two ounces of a yellowish-green liquor, gelatinous like the white of an egg, and contained in membranous follicles.--- Had the sanies, which gave such irresistible force to the tubercles affecting the face, neck, and other parts, arisen from this source? It seems very probable, for the liquids in both were of the same colour.

The pericardium was opened next, and was found to abound with a similar liquor. There flowed out from the aperture about two ounces of an humour exactly like that described above, only it was a little thinner and more yellow.

The heart was small, hard to the touch, and divided as it were into two equal partitions; for the right auricle, distended with blood, almost equalled the bulk of the heart; the ventricles were stuffed with a small quantity of black thick blood: between both ventricles the coronary vessels acted as vinculi, or ties, binding tightly the basis of the heart.

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The auricle being cut open, a most black spissid blood, covered with a tenacious membrane, was squeezed out from it. The sides of the bag itself seemed almost wholly formed of small livid varicose veins.

We often, in dissecting, both by accident and with design, wounded the larger veins; but I never remember that any thing issued out but a little blood, which was thick and black, as if deprived of all its serum and diluent lymph.

Having now examined the viscera, and their situation, I wished to take out the stomach and intestines, that I might see how much their form and situation had been changed. But on attempting this, and gently taking hold of the bottom of the stomach, behold it was altogether putrid, not bearing the slightest touch, but the lower part of it fell to pieces between my fingers!

There were no signs of a gangrenous inflammation; no redness, striæ, or livid spots appeared: every part was of a pale white, so that I imagined the stomach had not fallen into this waste from any violence or force, but that its structure had rather been eroded by some acrid matter, or relaxed by moisture, than corrupted by gangrene.

Nor will this seem improbable to any one viewing the situation of the stomach; for the ascent from the bottom of this viscus to the highest point of the pylorus, was altogether steep; in this subject, also, the re-action of the diaphragm was lost, by the help of which only the contents of the stomach can be raised upwards. More labour therefore rested on the muscles of the belly, than in other cases where the action of the diaphragm is joined with them. The ingesta must, without doubt, from their delay and rest in the stomach, have retained their own nature; to which, if we add the constant dropping of the gastric juice as it were on one part of the stomach, both the origin of the fatal vomiting, and the cause of the putridity, will be evident.

Hence also it will appear why the infant was worse in the night than the day, when lying than in an erect posture, and when loosely clad than when tightly bound; and how great anxiety, sickness, and inconvenience, it must have suffered, as often as its horizontal situation, and loose dress, gave an easy ascent to the food into the breast. The heart itself must have been greatly incommoded by the bulk of the unnatural contents of the breast, and have alone sustained a doubtful contest against the rushing foes.

The history of what appeared on dissection, thus far delivered, gives, if I mistake not, an easy explication of the symptoms, and therefore unnecessary for me to attempt; it only remains, that I relate briefly a few things which occurred to me, when often contemplating this incurable disease.

1. First then it appears, that an animal may live, be strong, chearful, and in some measure well, in which the diaphragm is split or ruptured.

2. Therefore

2. Therefore less is to be feared from this accident, in opening the breast, as often as an empyema, or dropsy, persuade us to try this doubtful remedy.

3. If the wound be wide and open, we may, perhaps, know that the diaphragm is thus affected, (1.) from the figure of the breast being too long; from the less oblique situation, than usual, of the ribs; and the respiration being at the same time injured, or rendered difficult.

4. In diseases of children, the nature of which seems very abstruse, some light may perhaps be gained from an accurate view and examination of the external parts; and therefore it should not be omitted.

5. As often as tubercles, pustules, exanthemata, affect some particular part of the body, we may suspect that the fomes of the disease lies not far beneath.

Thus, at length, I have explained a case curable by no art; but, perhaps, I have been too minute: this, however, I think will not displease thee, as the sincere in the art are unwilling to be ignorant from what causes premature death may supervene, as often, at least, as an opportunity of examining the body is granted them: for the dissection of such bodies not only renders the physicians more skilful, but it also lessens the grief of parents or friends for the deceased, and takes off the odium from our art, when it is publicly known, that by no remedies, by no help, no not even by thine, the final period of life could have been protracted.

Vale, vir candide! May'st thou long be happy in life, the patron of useful arts, the father and encourager of medical youth!

IT was a custom very early introduced into the Royal Society, to insert Remarks on important Publications, that had any reference to the objects of its institution. It was not unusual to refer such works to some junior member, who made an epitome of them, or offered such critical remarks as he deemed proper to lay before this learned body. Of this kind is the following Essay. The succeeding volume was put into the hands of the learned Dr. William Watson, of Lincoln's-inn-fields : his observations were printed in the *Philosophical Transactions*, vol. *xlvi*iii. p. 141. ann. 1753 ; and this is followed by a letter from Philip Miller, F.R.S. to Dr. Watson, concerning a mistake of Professor Gmelin, respecting the *Spondylium vulgare hirsutum* of Caspar Baubin, vol. *xlvi*iii. p. 153.

For several years past, the Society has not been in the practice of thus epitomizing the works of the learned ; it was probably suggested, that it gave the *Transactions* of the Society too much the form of a *Bibliothèque* : it may, however, be doubted, whether this reformation has added to the merit and reputation of this collection of immense literature, or been the means of admitting more original and important communications.

Editor.

A N
A C C O U N T
OF SOME
OBSERVATIONS AND EXPERIMENTS
MADE IN SIBIRIA;

Extracted from the Preface to the “ *Flora Sibirica*, five
“ *Historia Plantarum Sibiriae, cum tabulis æri incis.*
“ *Auct. D. Gmelin. Chem. et Hist. Nat. Prof. Petropoli*
“ 1747. 4to, vol. i.* ”

Read before the ROYAL SOCIETY, February 11, 1748.

BY direction of the late Empress of Russia, several Members of the Royal Academy of Sciences at Petersburg undertook a journey into Sibiria, in order to enquire into the natural history of that country, and to make such experiments and observations as might tend to give a just idea of that almost unknown region, and to the improvement of physics in general.

Dr. John George Gmelin, Professor of Chemistry and Natural History at Petersburg, was sent at the head of this deputation, who, besides several of his colleagues, and some students, had a painter or two, a miner, huntsman, and proper attendants in his retinue.

He set out upon this expedition in August 1733, and returned to Petersburg in February 1742, after having spent nine whole years in visiting almost every part of Sibiria.

The fruits of this undertaking are designed to be communicated to the public; and one volume of the History of Plants has already appeared, under the title of “ *Flora Sibirica, sive Historia Plantarum Sibiriae, Tom. I. continens*
“ *Tabulas Æri incisas L. Auctore D. Joh. Geo. Gmelin, Chem. et Hist. Natur.*

* Philosophical Transactions, N° 486, p. 248.

“*Prof. Petropoli Typis Academiae Regiae Scientiarum 1747.*” This is intended to be followed by several others, containing not only a description of the plants, their *locus natalis*, &c. but their uses among the inhabitants, so far as the Professor could get information concerning them.

In a large preface to this first volume, the ingenious and indefatigable author has given us a concise account of Sibiria in general, its rivers, lakes, mountains, mines, the nature of the soil, fertility, &c. with several judicious experiments and remarks on the altitude of the earth above the level of the sea; but especially on the qualities of the air in that climate; an abstract whereof, at first drawn up for private entertainment, was thought not unworthy of more public notice, and is therefore addressed to the Royal Society.

The country, whose natural history Dr. Gmelin has collected, is of vast extent. It is bounded by a chain of mountains called the Werchoturian and Vralian, on the west; by the sea of Kamtschatka, on the east; and comprehends all those countries that lie betwixt the *Mare Glaciale*, and the borders of the Kalmucks and Mongales, to the very confines of China.

The rivers which water this tract are numerous; some of them large, and even receiving streams in their course, which in other countries would be looked upon as capitals themselves. The space they measure is no less considerable. The Jaik is the first river of note on the western side. It rises under the latitude of 54, of longitude 78, and runs into the Caspian in 47 of latitude, and 74 of longitude. The Irtisch rises in the country of the Kalmucks, latitude $46\frac{1}{2}$, longitude 103; and empties itself into the Oby, latitude 61, longitude 86. The Oby rises under 52 latitude, $103\frac{1}{2}$ longitude, and loses itself in the *Mare Glaciale*, latitude 67, longitude 86, after running a course of near eight hundred leagues, and receiving a great number of rivers of considerable note. The Jenisea is not much less than the Oby. The Selenga takes its rise under latitude 48, longitude 114, runs into the lake Baical in $51^{\circ} 20''$ latitude: with many others equally considerable, which it would be tedious to mention.

The water of these rivers is for the most part fresh, clear, and salubrious. In some it is a little brackish, by the mixture of currents from salt lakes and springs, which abound in many places. They contain fish of various kinds in great plenty, and mostly of an excellent flavour.

The lake Baical may deserve some mention to be made of it, being one of the greatest fresh water lakes yet discovered. It extends, according to our author, from the one hundred and first degree of longitude, to the one hundred and twenty-seventh, being upwards of five hundred leagues in length, and is from twenty-five to eighty leagues in breadth. It is every where deep and navigable; the water is extremely clear, and abounds with great plenty of fine fish. It receives a great number of rivers; but the Angara alone runs out of

it: which joining the Tungusca, loses its name; as this likewise does, when it runs into the Jenisea.

Salt lakes are common in many parts of Sibiria: some contain a pure white salt, well tasted, and fit for use; which, in summer, is crySTALLISED by the heat of the sun alone, and forms a crust on the top of the lake. In some this grows so heavy, as to break and fall to the bottom. Besides this kind of pure common salt, which is fit for use, there is another sort, of a bitter taste, much resembling the *sal mirabile*, found in several lakes in this country. Springs of salt water are sometimes observed to rise in the midst of fresh water. Our author assures us, that he has seen several such; one especially he observed rising through a stone, in the bed of the river Angara.

Before we dismiss the salt lakes, we may just mention, that on the banks of the river Kaptendei, where it runs into the Wilvius, are a great number of salt springs, which afford excellent salt; and that, about thirty leagues above this place, along the same Kaptendei, on the right hand, is a hill about thirty fathom high, and two hundred and ten long, consisting entirely of *sal gem*.

There are some lakes, which, our author informs us, in the memory of man, contained only fresh water, but now are very salt. One of this kind, about forty years ago, abounded with fresh-water fish, but is now become salt, smelling strong of sulphur, with a bitter taste, and all the fish are killed.

The inhabitants assured our author, that some fresh-water lakes have been by degrees dried up, and that others have appeared where formerly it was dry ground; and that even some of these new-formed lakes, which at first had no fish in them, are now very plentifully stocked. They have not recourse to subterranean caverns or passages for a solution of this phænomenon; but assert, that ducks, sea-mews, &c. that live upon fish, carry the eggs from one lake to another.

In the description which our author gives us of the course of rivers, situation of lakes, &c. he takes notice of the soil, its barrenness, fertility, &c. These are different, as it may be supposed, in the different parts of such an extensive climate under such latitudes. About the lake Baical is the most fruitful tract, and thence is called the granary of that part of Sibiria. They grow some little corn about the latitude of 61. They have made of late some trials still further; but the success was not known.

In his passage through Sibiria, he tells us, that he could scarce think himself in Asia, till he got over the river Jenisea; till then, he saw no animals, but such as are common in Europe, at least may be seen in the plains washed by the lower part of the Volga. The plants and stones were of the same kind, and the face of the country in general, like other parts of Northern Europe. But from the Jenisea, to the east, north, and west, the climate seemed to be wholly

wholly different, and as if enlivened with new vigour. It is mountainous; but these mountains are intermixed with rich delightful valleys and fruitful plains. The animal that affords the musk, and the *musimon* of the ancients, were now to be met with. Many of the most common European plants by degrees disappeared, and others became frequent, which are strangers in Europe. The purity, clearness, and salubrity of the waters, the exquisite taste of the fish and fowl, but more especially the different genius and way of life of the inhabitants, plainly proved they were got into another climate. This remark our author submits to the consideration of geographers.

Amongst the curiosities of Sibiria the Professor mentions a place remarkable for its excessive coldness in the midst of summer. It is in the province of Jacutski, about the middle way to Ochotz along the river Jucanan; it is called by the Russians Springing Ice, by the natives the Icy Lake. Three other such places occur within the circuit of eighty leagues.

The provinces beyond the lake Baical are mountainous, with high and wide-extended plains lying betwixt them, which in many places are only covered with barren sand; so that in some places one may travel through such deserts one, two, or three days together, without finding wood enough to make a fire, or any other water than that of salt springs, which are very frequent; and being dried up by the summer heats leave a saline crust, very much resembling *Natron*, being of an alkaline nature, with a sulphureous smell.

The country that borders on the rivers Uruncan and Gasimur is extremely rich and fruitful. The face of the country is delightful, and its produce to the husbandman almost exceeding his hopes: but what renders it still more surprising is, that a country, whose soil yields to few in fertility, and the beauty of its bloom, should yet cover immense riches in its bosom. Here are mines of gold and silver, which have long been worked to advantage: the veins are rich, and lie shallow; yet communicate no poisonous effluvia to the vegetables that cover them: nor do those distinguishing marks of sterility appear here, which in most other mining countries are so observable.

The highest part of Sibiria is towards the springs of the rivers Argun, Schilca, &c. about the 49th degree of latitude, 130th longitude. This part is destitute of marble and lime-stone, which are almost every where to be met with in the lower tracts both of Sibiria and Russia: no petrifications are to be found here, either of the testaceous or crustaceous animals; and the veins of ore are always found near the surface, never entering deep into the earth. Besides the mines of gold and silver above-mentioned, copper and iron are found in several places; likewise the *Glacies Mariæ*, or Muscovy Glass, is dug near the river Mama. Loadstones are also got in Sibiria; and in several of the rivers, beautiful transparent pebbles and crystals occur.

I shall only add, that there are some natural warm baths in several parts of Sibiria,

Sibiria, and some of them of a most agreeable temperature; and proceed to the account of our author's observations and experiments on the height of the earth, &c.

Pauda is allowed to be the highest of all that ridge of mountains called Werkoturian. Our author endeavoured to take the height of it by means of the barometer.

On the 11th of December 1742, at our author's lodgings at the foot of Pauda, the mercury in the barometer, in a cold place, but within doors, stood at $26 \frac{8}{100}$ Paris measure. He then carried it up the mountain as high as he could go, which was about one-third of the whole height, where he hung up the barometer on a tree, from nine to eleven in the forenoon, making a good fire pretty near it, lest the intense cold, which sunk the quicksilver in De Lisle's thermometer to 201, should affect the barometer, and lead him to ascribe that to gravity, which was only owing to the contraction of cold.

Under these circumstances the quicksilver sunk to $25 \frac{3}{100}$.

Hence, according to M. Cassini's calculation, our author's first station will be 941 feet higher than the level of the sea: the second on Pauda 1505 feet, and the whole height of this mountain 4515, or 752 Paris toises; which added to 941 feet, the height of his lodgings at the foot of Pauda, makes 5456 feet, or 909 toises, the height of Pauda's top above the sea; supposing the level of the sea to be 28 inches, as the Paris academicians have fixed it: though this differs from observations made on the barometer at the sea-coast of Kamtschatka at Bolcheretz; where, from experiments made above two years, the mean height of the mercury was 27 inches, $6 \frac{1}{2}$ lines. And at Ochotz, during a year's observations, the mean height was found to be 27 inches and about $8 \frac{1}{2}$ lines.

Hence it would appear, that the sea of Kamtschatka is higher, with respect to the earth's center, than the Ocean and Mediterranean; and at Bolcheretz higher than at Ochotski.

The following list of barometrical observations, made in various parts of Sibiria, will shew the different heights of the different tracts in it.

	Feet.	Toises.	Inches.
The mean height of the barometer, from a year and 10 months observations at Irkutsk, was	—	—	$26 \frac{8}{100}$
Its height above the sea will then be	—	1355 or 226	—
At Selengia, 1 month's observations	—	—	$25 \frac{9}{100}$
Its height above the sea	—	1779 or 296	—
At Kiachta, a town on the confines of China, 12 days observations in April and May; mean height	—	—	$25 \frac{3}{100}$

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Its height	—	—	—	2400 or 400*	—
At Nertschia, from 20 days observations in June	—	—	—	25 $\frac{99}{100}$	—
The height above the sea	—	—	—	1738 or 298	—
At the silver mines at Argun, 9 days in July	—	—	—	25 $\frac{62}{100}$	—
The height above the sea	—	—	—	2121 or 353 $\frac{1}{2}$	—

Our author adds several judicious reflections upon the time and manner of making these observations, in order to determine any thing with certainty, which he has endeavoured to keep strictly to in these experiments; and concludes, that the plains in some parts beyond the lake Baical, are almost as high as the tops of high mountains in some other countries; Mount Mafane, according to the French geometricians, being but about 408 toises high, which differs but little from the plain country at Kiachta; which yet has considerable mountains rising in its neighbourhood.

From whence our author concludes, that the elevation of the earth, in this tract, above the level of the sea, is very great, compared with the west part of Sibiria and Europe †.

The air of Sibiria, with respect to its gravity, is, as in other countries, the nearer the sea the heavier; and the more remote, the lighter: so that at Kiachta, scarce one person in our author's retinue escaped without some indisposition. They were seized after their arrival, some with acute fevers, others complained of extreme lassitude and dejection. It was in the spring season, the weather moderate, their manner of living regular, nor had they been much fatigued with their journey; in short, they could attribute it to no other cause than the lightness of the air.

In these provinces, viz. beyond the lake Baical, our author tells us, that

* In the copy before me appears to be a great mistake, either of the printer, or in the manuscript; it being put down in words at length, *his mille quadringentorum Orgyarum cum dimidia* 3, which is impossible; and the number of feet is not exact, according to other calculations.

† M. De la Condamine, in his voyage through the inland part of South America, makes Quito to be between 14 and 1500 toises above the level of the sea.

Suppose	—	—	—	1450.
He tells us, that Pichincha is 750 higher	—	—	—	750

This makes in the whole, above the level of the sea — 2200 toises.

P. Martel, engineer, in his account of the Glaciers in Savoy, printed at London 1742, tells us, that the barometer at Geneva, by the side of the Rhone, stood at 27 $\frac{2}{3}$ I. which is 656 feet above the level of the sea, according to Scheuchzer; and that the highest point of Mont Blanc, measured partly by the barometer, and where inaccessible from the snow that covers it, by trigonometrical operations, is 12,459 feet, or somewhat more than 2,076 toises above the level of the Rhone; which, added to the height of this above the sea, makes 13,115 French feet, or about two English miles and two-thirds.

Intermittents

intermittents are seldom heard of, and ophthalmies are endemic; but that, in the fenny tracts which lie near the Oby and Janisea, intermitting fevers are very frequent.

The coldness of the air of Siberia is of all others, of the most remarkable quality. In some places it snows frequently in September, and not seldom in May. In Jacutsk, if the corn is not ready to cut in August, which often is the case, the snow sometimes prevents it, and buries the harvest all together. At Jacutsk, the Professor ordered a hole to be dug in the earth, in a high open place, on the 18th of June; the mold was 11 inches deep; below that was sand about $2\frac{1}{2}$ feet; it then began to feel hard, and in half a foot more it was froze as hard as possible. In a lower place, at no great distance from this, he ordered another hole to be dug: the soil was 10 inches; soft sand 2 feet 4 inches; below this, all was congealed; so that the earth is scarcely thawed even in summer above four feet deep.

Our author inclines to the received opinion, that the eastern climates under the same latitude are colder than the western; and thinks this is confirmed by experiments made in different parts of Siberia.

The mercury in De Lisle's thermometer often sunk in winter in very southern parts of this country, as near Selinga, to near 226, which is equal to $55\frac{1}{2}$ below 0. in Fahrenheit's thermometer. But the cold is often much more intense than this, as appears by the following experiments, made at Kirenginski.

Feb. 10, 1738. At eight in the morning the mercury stood at 249 degrees in De Lisle; which is 72 below 0. in Fahrenheit's.

On the 20th it sunk one degree.

At the same place in 1736,

Dec. 11. At three in the afternoon, 254 in De Lisle.

Almost 90 below 0. in Fahrenheit.

Dec. 20. Four o'clock, p. m. 263 in De Lisle.

$99\frac{4}{10}$ below 0. in Fahrenheit.

	D.	F.
Noy. 27. Twelve at noon,	270	$= 107\frac{7}{10}$ below 0.

Jan. 9. — —	275	$= 113\frac{6}{10}$.
-------------	-----	-----------------------

1735, Jan. 5. Five in the morn. 260.

Six —	280	$= 120$.
-------	-----	-----------

Eight —	250,	and rose by degrees till eleven at night, when it stood at 252.
---------	------	---

Such an excess of cold could scarcely have been supposed to exist, had

not experiments, made with the greatest exactness, demonstrated the reality of it.

During this extreme frost at Janisea, the magpies and sparrows dropped down as they flew, and to all appearance dead; though they mostly recovered when brought into a warm room. This was quite new to the inhabitants of that country; though it frequently happens in Germany in much less intense cold, when the weather sets in at once very severe.

The air, says our author, was at that time extremely unpleasant; it seemed as if itself was froze, being dark and hazy; and it was scarce possible even to bear the cold in the door-way for three or four minutes.

These experiments, our author assures us, were made with all possible exactness, and agree with many others, made in different parts of Sibiria by his direction; and from these we may conclude, that the cold in Sibiria is more intense than it has yet been found to be in any other part of the world.

It was not apprehended that a greater degree of cold existed any where, than that artificial one produced by Boerhaave, by means of concentrated spirit of nitre, which sunk the mercury 40 degrees below 0. in Fahrenheit's thermometer; which was supposed to be the point beyond which no animal could bear it.

But the utmost limits of cold are yet unknown; or to what degree an animal can subsist in it, when inured to it by little and little. The history of heat is alike imperfect. The celebrated Professor above-mentioned was induced to think, that a man could not bear, without the utmost danger, a greater heat than that which would raise the mercury to 90 in Fahrenheit's; but an ingenious and accurate correspondent of our author's at Astrachan informs him, that it not only rises there to this degree frequently, but even to 100, and he has seen it 103½. Even in the bagnios in Russia, the heat is often equal to 100: it sometimes makes the quicksilver ascend to 108, 110, and to 116, as may be tried every day; and yet people not only bear them with impunity a few minutes, but often stay half an hour or an hour.

One necessary observation our author makes, which is, that the ball or tube containing the mercury ought to be as dry as possible on the outside, during these or any other trials with the thermometer: for the adhering moisture, by forming a cooler atmosphere round it, has sometimes occasioned a difference of ten degrees.

These are some principal facts given us by our author in his preface, relative to the natural history of Sibiria in general: what follows chiefly regards the work it is prefixed to.

As a just idea of this part cannot be exhibited in a narrow compass, the curious in this branch of science must be referred to the book itself.

I have only to acknowledge with gratitude the instruction and entertainment I have received from this elaborate work: it is a tribute justly due to the learned and ingenious author, in return for the pains he has taken, and the fatigue he has endured in this inhospitable region; and to entreat your indulgence, if I have flattered myself too much, in apprehending this excerpt might afford you some amusement.

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A N
A C C O U N T
O F T H E
P U T R I D S O R E - T H R O A T .

17

A C C O U N T

OF

THE STATE OF NEW YORK

P R E F A C E *.

WHEN the following treatise was first published in the year 1748, the disease which is the subject of it was not generally known in England, though it had spread like a plague through many of the southern parts of Europe about a century before, and had carried off great numbers of people, children especially.

From the time of its first appearing in this nation, it has visited many parts of the kingdom, with different degrees of violence, as different causes contributed to render it more or less malignant.

It is probable that this kind of Sore-throat may continue amongst us for the future, breaking out with more or less severity, as seasons, situations, and other circumstances, may concur. And,

Though its aspect has sometimes varied, according to the epidemic constitution, yet upon the whole it has seldom, in any place that I have heard of, deviated so far from the following description, as to leave it doubtful under what species of disease it ought to be ranked.

Warranted by the authority of those Physicians who had early and extensive opportunities of observing this distemper in Italy, Spain, and other countries, at its first breaking out in Europe, as well as by the experience of some Physicians at home, the late very eminent and learned Dr. Letherland particularly, instead of treating it as an inflammatory disease, which a Sore-throat was generally deemed to be in this country, a warmer regimen was proposed, and such as is most commonly pursued in putrid fevers, and disorders allied to them.

This method has for the most part succeeded very happily; and it now seems to be the concurrent opinion of the most experienced in the faculty, that a generous and cordial regimen, is in this species of Sore-throat the most salutary.

Amongst all the symptoms which attend this disease, there is none more formidable than perpetual watchfulness, with a delirium. These symptoms most commonly affect adults, and especially the sanguine and plethoric.

The throat, in these circumstances, is seldom much ulcerated; this part is the least of their complaints: the patients are hot, restless, and, though

* The sixth and last edition of this interesting production was reprinted in 1777; to which, and the preceding edition only, this Preface was prefixed. *Editor.*

delirious, are sensible for a moment, and answer questions put to them, not improperly. The skin is covered with a deep erysipelatous redness, and always dry, as they are continually moving about. The pulse is quick, small, and hard; the urine various, often turbid, yet sometimes clear and flame-coloured.

In such cases bleeding seems not only allowable, but necessary, especially by cupping from the back of the head, or by leeches from the temples; from the arm perhaps it might occasion too great faintness; and a retreat of that eruption, which though no critical discharge, but rather a symptom of malignity, ought not to be repressed.

After bleeding, the Bark, conjoined with alexipharmacs, as the simple or compound powder of *Contrayerva*, *Confectio Cardiaca*, or the like, may be exhibited, in quantity and frequency proportioned to the age and symptoms.

The use of the Bark in the cure of this disease, was unknown to the early practitioners. It is but of late that this celebrated medicine has been used with freedom in this as well as in other putrid diseases, and with great advantage.

The difficulty of prevailing upon children afflicted with this distemper to take any kind of medicine, put me early on trying the Bark in clysters, and sometimes when there seemed very little chance of relieving them by any means. To very young children, two or three drachms of the Bark, in fine powder, have been given every six hours, in three or four ounces of broth, as a clyster, adding a small quantity of the *Elect. à Scordio* to the second or third, if the first was discharged too speedily; and this has saved many, when not a drop of any medicine, and scarcely any kind of nourishment, could be swallowed.

Adults may take half a drachm of the powder in an ounce and a half of the decoction, warmed with any grateful compound water, every two or three hours; taking particular care to prevent any considerable tendency to a diarrhœa, from the use of the medicine.

Free, but not cold air, plenty of liquid nutriment and generous, with constant attention to keep the patients clean, their mouths and throats often washed, and their linen changed, contribute greatly to the cure of this disease. While their skin is covered with that deep efflorescence, if they are at all sensible, they often complain of the least admission of cold air, and very frequently of much sickness and oppression, if this efflorescence speedily disappears.

To favour this eruption, it will always be proper to put those who are seized with this distemper to bed as early after seizure as possible, and to give the mild and cordial diaphoretics. And, as a preservative, I have often recommended

recommended the Bark to be given both in decoction and substance, with the addition of such a quantity of the volatile tincture of *Guaiacum*, as may render it gently purgative.

Though the Faculty and the Public are now sufficiently convinced of the existence of this distemper, and it may seem, therefore, needless to continue so many testimonies of it; yet as this recapitulation may serve as an index to some of the most approved authors on the subject, it may not be without its use to inquisitive practitioners; and others may easily pass it over to a part in which they are more immediately interested, viz. the knowledge and cure of this disease, as it has appeared, and still continues to appear, in many parts of this nation..

J. F.

Nov. 25, 1769.

1871
The following is a list of the names of the persons who have been admitted to the membership of the Society since the last meeting of the Council, viz. the 1st of January 1871. The names are arranged in alphabetical order, and are given with the date of admission, and the name of the person by whom they were proposed.

MEMBERSHIP OF THE SOCIETY		
NAME	DATE	PROPOSED BY
Mr. A. B. C.	1st Jan. 1871	Mr. D. E. F.
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Mr. M. N. O.	1st Jan. 1871	Mr. P. Q. R.
Mr. S. T. U.	1st Jan. 1871	Mr. V. W. X.
Mr. Y. Z. A.	1st Jan. 1871	Mr. B. C. D.
Mr. E. F. G.	1st Jan. 1871	Mr. H. I. J.
Mr. K. L. M.	1st Jan. 1871	Mr. N. O. P.
Mr. Q. R. S.	1st Jan. 1871	Mr. T. U. V.
Mr. W. X. Y.	1st Jan. 1871	Mr. Z. A. B.
Mr. C. D. E.	1st Jan. 1871	Mr. F. G. H.
Mr. I. J. K.	1st Jan. 1871	Mr. L. M. N.
Mr. O. P. Q.	1st Jan. 1871	Mr. R. S. T.
Mr. U. V. W.	1st Jan. 1871	Mr. X. Y. Z.
Mr. A. B. C.	1st Jan. 1871	Mr. D. E. F.
Mr. G. H. I.	1st Jan. 1871	Mr. J. K. L.
Mr. M. N. O.	1st Jan. 1871	Mr. P. Q. R.
Mr. S. T. U.	1st Jan. 1871	Mr. V. W. X.
Mr. Y. Z. A.	1st Jan. 1871	Mr. B. C. D.
Mr. E. F. G.	1st Jan. 1871	Mr. H. I. J.
Mr. K. L. M.	1st Jan. 1871	Mr. N. O. P.
Mr. Q. R. S.	1st Jan. 1871	Mr. T. U. V.
Mr. W. X. Y.	1st Jan. 1871	Mr. Z. A. B.
Mr. C. D. E.	1st Jan. 1871	Mr. F. G. H.
Mr. I. J. K.	1st Jan. 1871	Mr. L. M. N.
Mr. O. P. Q.	1st Jan. 1871	Mr. R. S. T.
Mr. U. V. W.	1st Jan. 1871	Mr. X. Y. Z.

P A R T I.

Of the SORE-THROAT attended with ULCERS;

As it appeared in SPAIN, ITALY, SICILY, &c.

THE disease which is called, by the Spaniards, *Garrotillo* *; by the Italians, and other nations, *Morbus strangulatorius*, *Pestilens Faucium Affectus*, *Epidemica Gutturis Lues*, and by divers other appellations †; is said to have appeared first in Spain about the year 1610; to have spread from thence to Malta, Sicily, Otranto, Apulia, Calabria, and the Campagna, in the space of a few years; and to have broke out at Naples in 1618, where it continued upwards of 20 years ravaging the different parts of that kingdom ‡.

It is not certainly known how much longer it remained in these countries, or to what others it was communicated at that time, its declension being as obscure as the causes it sprung from. That it wholly disappeared in these parts, soon after the time above-mentioned, seems probable, from the silence of those physicians, who have published their observations made in the places, which had so severely felt the effects of this distemper.

Several writers, as Wierus §, Forrestus ||, Ramazzini **, and others, take notice of epidemic affections of the throat, in some respects resembling the disease here described; but a little attention to the symptoms of each will, I

* Ab Hispanis Garrotillo appellatur, ut eadem patiantur Angina laborantes, quæ facinorosi homines, cum injecto circa collum fune strangulantur. Epist. R. Moreau ad Th. Barth. Epist. Med. Cent. i. p. 336.

† Affectus suffocatorius, Carbunculus anginosus, Phlegmone anginosa, Angina pestilentialis, Morbus Gulæ, Morbus Puerorum, Pestilens ac præfocans pueros abscessus, Tonsillæ pestilentes, *Αρχὸν λοιμώδης*, Aphthæ malignæ, Passio anginosa, Laqueus gutturis, &c. Vide Cortes. Miscel. Med. p. 666. Severin. et Epist. Ren. Moreau ad Th. Barthol. de Laryngotomia.

‡ Severin. de recondita abscessum natur. p. 446.

§ Joh. Wieri Observat. lib. vi. de Angina pestilenti epidemica, Oper. p. 910.

|| Pet. Forrest. Observat. lib. vi. de Febribus publice grassantibus, p. m. 150.

** Bern. Ramazzini Constitutiones Epidem. Oper. p. 195, & seq.

think,

think, discover an essential difference between them. The same, I think, may be said of the sore-throat and the scarlet fever, which shewed itself at Edinburgh in 1733*.

Tournefort, in his voyage to the Levant †, seems to have met with this disease in the islands of the Archipelago; at least so far as one can judge from the imperfect description we have of it. His account is as follows:

“ When we were in this island (Milo) there raged a terrible distemper, not uncommon in the Levant; it carries off children in twice 24 hours: it is a carbuncle or plague-sore in the bottom of the throat, attended with a violent fever. This malady, which may be called the child’s plague, is epidemical, tho’ it spares adult people. The best way to check the progress of it, is to vomit the child the moment he is perceived to grow heavy-headed. This remedy must be repeated; according as there is occasion, in order to evacuate a sort of *aqua fortis* that discharges itself on the throat. It is necessary to support the circulation of the juices, and the strength of the patient, with spirituous things; such as the *Theriaca*, *Spir. vol. oleos. aromat.* and the like. The solution of liquid styrax in brandy is an excellent gargarism upon this occasion. Tho’ it is a case that requires the greatest dispatch, the Levantines are seldom much in haste in the cure of any disease.”

This account does not disagree in general with that which has been left us of the *morbus strangulatorius*; only he is singular in asserting it to arise from a kind of *aqua fortis* discharged upon the parts; but his favourite study had engrossed his attention, and to this we must impute both the present mistake, and his want of accuracy and precision too frequently, when he treats upon medical subjects.

When it first broke out in the countries above-mentioned, it soon engaged the physicians of those times, as well to observe its nature, effects, and whatever might contribute to its cure, as to vindicate their respective systems and opinions; and out of such of the tracts then published as I have had an opportunity of perusing, the following account of it, as it appeared at that time, has been collected.

Ludovicus Mercatus, physician to Philip II. and III. Kings of Spain; among his Consultations, published in tome V. of his works ‡, has one upon this disease §. He mentions it as a calamity which had but newly appeared, and

* Medical Essays, vol. iii. p. 26.

† Tournefort’s Voyage to the Levant, vol. i. p. 135.

‡ D. Ludovici Mercati, medici a cubiculo Philippi III. Hispaniarum Regis, &c. Oper. Tom. 5. Francof. 1614.

§ De Faucium et Gutturis anginosi et lethalibus Ulceribus. Consultatio xxiv. p. 137:

at that time affected several provinces and cities of that kingdom. He has related only one case; but in commenting upon it, according to the method of writing on diseases then in use, he takes notice of several circumstances relative to it, and makes some observations respecting the cure, which, tho' they seem to have been neglected by many who succeeded him, experience hath since shewn to be just: some of these will be pointed out in their proper places; and, considering that he wrote very soon after the distemper broke out, the approbation prefixed to this part of his work being dated in 1612, they are a proof of his attention and sagacity.

Johannes Andreas Sgambatus, a physician of Naples, published a treatise upon this subject in 1620*. He gives us a methodical and pretty exact history of the symptoms, and method of cure both general and topical, together with a summary view of the disputes, which were at that time managed with sufficient heat and acrimony, in relation to its name, cause, and nature; about which they were as much divided as they were about the method of cure; each party appealing to Hippocrates, Galen, Avicenna, &c. for the support of their opinions concerning a disease, which it is not certain that those whom they appeal to ever knew.

Johannes Baptista Cortesius, in his *Miscellanea Medica* †, takes notice of this disease, and describes its principal symptoms, in a letter to Jo. Anton. Anguilloni, physician in chief to the Maltese galleys. He considers it indeed as a different distemper from that which infested Naples, and other parts of Italy; tho', from his own account of it, there appears little reason to question its being the same. He seems to have been led into this mistake, by considering the disease he treats of, as contagious only in a certain limited sense, whilst the Italians, as some of the Spaniards had also done, declared theirs to be pestilential and contagious without restriction. He allows, that the breath of a person affected might convey the contagious effluvia to another near at hand; and gives an instance of one who got the disease, and died of it, by trying, at his friend's request, who then laboured under this disease, if his breath was affected ‡; for from this circumstance they guessed at the degree of danger attending the sick.

In

* De pestilente faucium affectu Neapoli saviente, opusculum, auctore Jo. Andrea Sgambato, philosopho ac medico Neapolitano, et academico otioso. Neapoli excudebat Tarquinius Longus, 1620, in 4to.

† Joannis Baptistæ Cortesii, medici ac philosophi, in Messanensi academia praxim ordinariam e prima sede interpretantis, *Miscellaneorum Medicinalium Decades* Denæ. Messanæ 1625, in fol.

‡ Divi Francisci Custos, vir doctrina et moribus insignis, hac lue obsessus, tonsillas solummodo et gargareonem inflammatione læsa habebat, et continuo querebatur se percipere in ore fœtorem quendam; et ut hac de re certior redderetur, ad se vocavit baccalaureum quendam sibi amicissimum, qui maximo affectu assistebat, rogavitque ut vellet olfacere, percipereque naribus, an
verum

In 1636, Ætius Cletus, of Signia in Italy, published his treatise *De Morbo Strangulatorio* *. He mentions some facts relating to it, that had escaped Sgambatus and Cortesius, which will be taken notice of hereafter.

Marcus Aurelius Severinus, Professor of Anatomy and Surgery, and physician to the Hospital of Incurables at Naples, wrote a dissertation upon this disease, under the title of *Pædanchone Loimodes, seu de pestilente ac præfocante Pueros Abscessu*; and annexed it to the second edition of his book *De recondita Abscessuum Natura*, which was printed in 1643 †. From a person of his capacity, and furnished with the best opportunities of seeing the disease in every stage and condition, we might reasonably have expected such observations as would enable one to form a just idea of this distemper; but we meet with little of this kind in his performance. He has indeed mentioned some circumstances relating to its history, not taken notice of by the other writers I have seen, and his method of cure is different from the rest; but he refers us to others for an account of the symptoms, and contents himself with reciting and commenting upon Aretæus's description of the *Ulcera Syriaca*, which he takes for granted to have been the same with the disease at that time infesting Naples; tho' very probably without sufficient reason.

Petrus Michael de Heredia, physician to Philip IV. King of Spain, in his *Disputationes de Morbis acutis*, treats of this disease expressly in several chapters under the title of *Angina Maligna*. His history of the symptoms contains several circumstances which were not taken notice of by any other writer I have seen; so that though he was probably among the last of the Spanish physicians who wrote upon this subject, yet the diligence of his predecessors had not wholly exhausted it. In the second edition of Heredia's works, which was that I made use of ‡, nothing appears whereby to ascertain the time exactly when he wrote his account; but as he mentions the *Polyanthea* of De la Parra, which, according to Ren. Moreau in Bartholine's

verum esset talem foetorem emittere, an ab ejus imaginatione prodiret: olfecit baccalaureus, me (scil. Cortesio) præfente, et multis aliis: at statim non multis elapsis horis decubuit sola faucium et glandularum inflammatione vexatus, absque aliqua manifesta corruptione partium, omnibusque præfidiis ex arte factis, quarto die suffocatus periit; et tamen Custodem non tetigerat, sed solum olfactu aerem ab ore prodeuntem naribus traxerat: quare ab hujusmodi exemplo veni insententiam hunc morbum non esse absque aliqua contagione. Cort. Miscel. p. 698.

* De morbo strangulatorio, opus Ætii Cleti Signini, doctoris medici et philosophi. Romæ 1636, 8vo.

† De recondita abscessuum natura, libri 8. Marci Aurelij Severini Tharsienfis, philosophi et medici, regio in gymnasio Neapolitano anatomes et chirurgiæ professoris. Editio secunda, Francofurti ad Mænam 1643. And again printed with Bartholine's Exercitationes, as a commentary upon it, and Villani's Therapeuta Neapolitanus, seu Veni mecum Consultor. Neapoli 1653.

‡ Petri Michaelis de Heredia Complutenfis—Philippi IV. Hispaniarum regis archiatri—Opera medicinalia—Lugduni 1673. fol.

Epistles, was printed at Madrid, in 1625, it is plain that he must have written after this time.

One might justly expect some curious observations upon this disease, from a person so well qualified for it as Thomas Bartholine: he was in Italy whilst it raged there, and, it might be supposed, would be attentive to the minutest circumstance relating to it, and be inquisitive enough to know what men of character had said upon it. But the Treatise which he wrote upon this disease, and published in 1646 *, contains so little to the purpose, that it is difficult to conceive for what end it was written, unless to compliment his master Severinus, which he does very liberally †.

According to the accounts which have been left by these Authors, it appears, that the disease which they describe was extremely malignant, and most particularly fatal to children, though adults, if they were much conversant about the sick, were very often seized with it; yet more of these recovered in proportion than of children; and it was observed, that more boys got well through the disease than girls: some thought, that such of this sex as had black eyes suffered more from it than others.

As it was sometimes observed to carry off whole families together, and to spread to those places first, between which, and the countries affected by it, the communication was most frequent; and also that children, sent away from the towns where it raged, in order to avoid it, escaped whilst they were kept at a distance, but had it on their return, if the disease was not extinguished; it was almost universally allowed to be contagious ‡.

Those who were seized with it, first complained of a pain or soreness in the throat, with a stiffness of the neck, an uneasiness on moving it, as if a

* Thomæ Bartholini de Angina Puerorum Campaniæ Siciliaque epidemica exercitationes, Lut. Parisior. 1646.

† Zacutus Lusitanus also mentions this disease, and relates an unhappy instance of its effects in the following terms:

In his partibus (scil. faucibus) ex humoris virulenti affluxu gignuntur carbunculosa inflammationes, quæ pestis diræ, aut veneni promptissimi instar, contagio quodam, pueros et adultos corripunt; et sævis maleficientissimisque stipatæ symptomatis citissimam necem inferre solent. Malum in Hispania non multis abhinc annis frequens, vulgus medicorum Hispano sermone *Garrotillo* nuncupat; de cujus essentia, periculo, brevitate, et complicatione ustri et ulcerosi tumoris, ac deleteria corruptione, laconice dicam. Hoc fuit pressus biennis infans, sanguineus et obesus. Primo die ex catarrhosa defluxione in suffocationem pene incurrit, difficulter respirabat, et lac deglutiebat, et febris acuta affectus, nec plorare poterat. In parte gutturis dextra externa glandulosus apparuit tumor cum dolore multo. Secunda die intra fauces ulcus visum est ad nigrum vergens, quod putrilago et mollities multa comitabantur; et ab ore fætor horribilis prodibat, magnum certe corruptionis completæ indicium. Tertio die nullis adjutus auxiliis strangulatus est extinctus. De Praxi Medic. Admiranda, lib. 1. observ. 20.

‡ Quod ad contagium attinet, hoc communi omnium consensu atque experimento evincitur. Severin. p. 442.

cord was twisted about it, a difficulty in swallowing, and frequently in breathing also, with a disagreeable fetid smell and taste. On inspection, the *Uvula*, the *Tonsils*, *Pharynx*, and the whole *Fauces*, appeared of a remarkably florid red colour, like that attending an *Erysipelas*: this colour was not uniformly intense, but some parts seemed to be of a deeper dye than others. The parts above-mentioned were swelled more or less, though not always so much as to affect respiration, as in a common *Angina*.

If the attack was violent, they had an extreme difficulty in breathing, and also in swallowing, with a kind of compressive pain and straitness of the breast and back, a redness of the whole face and neck, great heat of all the parts affected, the voice much injured, an unquenchable thirst, and the patient seemingly in danger of being choaked *. In some, the swelling and ulcers of the *fauces* were apparent upon looking into the mouth; in others, nothing could be seen, but a most offensive putrid smell was perceivable. A fever came on with the other symptoms, and was frequently accompanied with small pimples and eruptions like flea-bites. In very bad cases, this fever, which Mercatus calls a most malignant one †, did not always discover its violence or malignity at first; but it was not the less formidable on this account ‡.

On the same day, or the day following, such parts of the *fauces* as at first seemed to be of a deeper colour than the rest, turned white, ash-coloured, or black: this was not occasioned by any crust or matter superinduced upon the parts, but proceeded from a gangrenous colliquation of them, the substance itself being mortified.

The voice was hoarse and obscure, not as in a common cold, but as it is in those people who have venereal ulcers in the throat: so that, from this affection of the voice alone, some were able to guess at the disease §.

The neck and throat soon after began to swell externally; the tumour was of a soft oedematous kind, and increased in magnitude as the disease advanced. All the symptoms were aggravated during the night. If the patients had any interval of quiet, it was commonly in the day-time ||.

* ——— difficultas respirandi, et non raro deglutiendi, cum pectoris et dorsi dolore ac veluti compressione suffocante, simul cum pestilente odore, et vehementi harum omnium partium ardore, et rubore totius oris et colli, cum vocis et loquelæ vitio, ac linguæ extractione, et siti incompefibili. Mercat. Consult. p. 136.

† Maxime ob malignissimam febrem, quam plerumque sibi adjunctam habet, &c. Consult. p. 136.

‡ — nec multum fidere oportet, si febris mox non apparuit aut succrescat, nam sæpe citius suffocat affectio, quam causa succendatur; ac non raro malignitas humoris corrumpit spiritus et mortem accelerat, sine eo quod febris succendatur. Mercat. Consult. p. 137.

§ Severin. p. 442.

|| Sgambat.

About the fourth day this tumour was generally grown very large, and the white places in the *fauces* began to turn black; a putrid corrosive sanies was discharged by the mouth and nostrils *; the breath grew extremely offensive; respiration, if hitherto not much affected, now became difficult, and the patient expired in a very short time.

Though this was the common progress of the disease, where it terminated unhappily, yet it often varied from this type, and was attended with very different symptoms. Some had an extreme difficulty of breathing almost from the first; some had a violent cough; some were comatous; others had a delirium; some died in a lethargic stupor; others bled to death at the nose; whilst others again had none of these symptoms, but were carried off suddenly by an instantaneous suffocation. The *œsophagus* in some was sphacelated down to the stomach; the *aspera arteria*, in others, to the lungs. As these could only breathe in an erect position; so those could swallow nothing when the parts were so affected. The nostrils discharged a fetid ichor, sometimes mixed with blood; and sometimes blood alone, without mixture. This bleeding at the nose seemed at first, in one case, to give relief; but the patient soon after died †. Mercatus relates an instance of a child that had the disease, in which the acrimony of the humour discharged from the ulcers was so great as to inflame the nurse's breast, and brought on a mortification. He also tells us, that the father of the child whose case is described above, having frequently put his finger in the child's mouth, to draw out the viscid phlegm, had his finger inflamed, and was seized with the same distemper ‡.

These were the symptoms in general, and they judged of the event by the mildness of their progress, or the contrary: though it was agreed, that nothing could be more fallacious than this disease; and that the most experienced were often deceived in their prognostic.

If the redness of the *fauces* above described, which appeared at first being seized, was succeeded by an ulceration, without any of that whiteness (which

* Quibus etiam accedit sublimis respiratio et alta ac spirituum revulsio, cum maxima pinnarum nasi distensione.—Saniei per os et nares excretio, variis ulcerum coloribus et intensissimo fœtore nauseam plerumque movente cum fordida excretionem. In aliquibus vero extra, prope cervicem, et infra mentum glandulæ apparent, pestiferi morbi naturam redolentes, et universa cervix, et collum intumescunt, et fauces cum robore saturato, instar laqueo suffocatorum. Merc. Consult. p. 136.

† Severin. p. 440.

‡ — erat quidem dira humoris conditio adeo perniciofa, efficax et contagiofa, quod digitum patris indicem, quo extrahebat eum succum ab ore filii, mordicaret, et in ruborem moveret cum dolore: tandem mox pater conquerebatur de difficultate respirandi et deglutiendi cum dolore et tumore faucium, ac saturato colore, et glandulis extra apparentibus juxta mentum. Ex quibus secundo die halitum prave olentem expirabat; ita ut jure optimo possis colligere, contagio filii patrem fuisse affectum. Mercat. Conf. p. 139.

for the future I shall call sloughs), if the swelling about the neck and throat was not large, if the patient discharged by the mouth considerable quantities of thin pituitous matter, if the breath was not foetid, and the patient had no disgust to his food, if the eyes retained their proper lustre, all was judged to be secure.

On the other hand, if the lustre of the eyes was considerably faded *, if the external œdematous tumour was very large, if the breath stunk, if the *fauces* were livid or black, with a coma or delirium, if with these the patient had an aversion to his nourishment, and his breathing became difficult or laborious, the danger was judged to be extreme.

It was not observed that the disease had any stated crisis; or that the signs of recovery, or death, appeared on any certain day. Some died on the first, others on the second, third, and on every day, to the seventh; though the greatest part died before the fourth †. Those who survived the fourteenth were thought to be out of danger, at least from the disease itself ‡; though some dropped off unexpectedly, after a much longer reprieve §.

The consequences of this disease were often felt a long time after it had ceased. An excessive languor and weakness continued for many months; and the voice or deglutition was frequently affected, so as to be perceivable in some almost a year after ||.

It was however observed, that notwithstanding the disease most frequently was accompanied with symptoms of pestilential malignity, yet it sometimes appeared with a much more favourable aspect; its progress not being so quick, nor its symptoms so violent and dangerous, as hath here been described to be the case in general **. At its first breaking out in any place, it was commonly the most severe; it then spared no age or sex, but swept off adults together with infants ††. By degrees it became less violent, and at length either wholly disappeared, or was of so little consequence as to be disregarded.

We are directed, by most of the authors I have seen, to begin the cure of this distemper, whenever we are called in time, with evacuations, the chief whereof are bleeding and purging: which of the two ought to precede, was not a little disputed; but it was on all hands agreed, that unless these re-

* Hoc unum salutis est indicium vel interitus: dum oculorum nitor adservatur, salutis spes semper adest; quo tempore hic deperit, in propinquo mors est. *Ætii Cleti Op.*

† — indies magis ac magis hæc accidentia crescunt, donec brevissimo tempore laborantium majorem partem perimat, idque non raro intra quartum diem. *Merc. p. 137.*

‡ *Ætii Cleti Op. de Morbo strangulatorio.*

§ Quinimo post xxx dies, et xl. jam prærepti morbi furoribus, præter omnium opinionem ex improviso sunt extincti. Adeo scilicet latitans et recondita veneni vis est. *Severin. p. 440.*

|| *Æt. Clet.*

** *Severin.*

†† — ut pestis more in citissimam mortem pueros et adultos deducat. *Merc. Consult. p. 135.*

medies were very early applied, as they were principally useful by way of revulsion, they were not only of no advantage to the patient, but highly injurious *. Observations of this kind, we are told †, induced several physicians to omit bleeding entirely; and it was, probably, the reason why those who were friends to venesection ordered it more sparingly in this, than in most other acute diseases ‡. Severinus, who was by no means a timid operator, orders from four to eight ounces to be taken away; which, considering the common practice in those countries, is a very small quantity §.

Some not only gave the precedence to purging, but imagined it alone was sufficient; alledging as a reason for it, that some children have recovered where this evacuation only had been employed; whilst bleeding had been injurious; by lessening the strength ||. Purging was however commonly allowed the second place by those who were advocates for bleeding, but under the like restrictions **. They generally made use of manna, rhubarb, senna, tamarinds, syrup of roses, and the like, for this purpose. But it was always inculcated, that, in directing these evacuations, the patient's strength was especially to be regarded; since whatever diminished this, in the end was undoubtedly prejudicial ††.

* — disputare cœpimus de sanguine extrahendo: " siquidem non defuerunt medici, qui " id renuerunt:" cæterum unanimi consulentium consensu, primo die sanguinem misimus, cruribus scarificatis, et mox octava noctis hora brachiis, aut si ultra duos annos fuerit natus, ex vena brachii: " in hoc malo plurimum vereri oportet, vires plurimum dejicere." Mercat.

Brevissime secandam esse venam in hoc consentitur omnes. P. Mich. de Heredia de Morb. acut. p. 101.

† Circa quod præsidium (venesectionem) in pueris exequendum, consulo ne differatur, quia ejus occasio solum est, antequam fluxio in partibus contenta ad putredinem commigret. Nam tunc temporis, si sanguinem suderis, summopere lædes, quæ causa fuit quod multi medicorum, viso hoc damno, renuerint sanguinem mittere. Mercat. Consult. p. 138.

‡ In hoc sacro igne non mittendus est sanguis in ea quantitate ac in angina exquisita.—Placuit quibusdam in hoc morbo secare venas sub lingua; alii admoverunt hirudines collo; mihi nulla istarum evacuationum unquam probari potuit. Nam cum tumor superveniens ex sanguine non oritur, frustra adhibentur ea auxilia quæ ad sanguinem ex parte affecta evacuandum excogitata fuerunt. Sgambat. de Pest. Faucium Affect.

§ Esse vero efficiendas parcas missiones in quantitate, dum revellere intendimus, docuit antiquitas.—Quod præceptum magis observandum in morbo præsentī, in quo nimis timemus virium jacturam. Copiosa enim sanguinis missio, præterquam quod minus proprie revellit, dejecit vires. P. M. de Heredia, ubi supra.

§ Severin. ubi supra.

|| — hoc solo præsidio aliquando visum fuit, pueris ad integram sanitatem recuperandam sufficere, sicut aliis sanguine detracto, vires plurimum fuisse dejectas. Merc. Conf. p. 138.

** Quod evacuandum morbus exposcit, evacuetur brevissime. Idem, p. 102.

†† — in morbis malignis breviter destruentibus vires, at poscentibus simul robur animalis virtutis ad sui sanationem, multum evacuare non licet. Heredia, p. 102.

Severinus orders an antimonial vomit to be given at the first attack, and a cooling gently astringent gargle to be used night and day. He then orders a clyster, takes away some blood from the jugular, and gives from fifteen to twenty-one grains of bezoar mineral twice a day, or oftener, as occasion requires, with thin diluting liquors, in order to raise and promote a moderate sweat. He gives five or six grains of the same medicine to children at the breast, and commends it highly. He scarifies the discoloured parts in the *fauces*, in order to let out the corrosive virus; a practice which, though it was recommended by the Spaniards *, was disliked by some of the most eminent Italians †.

Cupping, with scarification, was universally approved, and commonly practised. Leeches were also applied, by way of revulsion, to different parts.

Considerable benefit was expected from ligatures made on the extremities, and from chafing the limbs with the hand, or a cloth; also from cupping without scarification; apprehending that a revulsion from the parts affected was by this means procured; and that some portion of the morbid matter was carried off by the pores of the skin.

Some of the Spanish physicians recommended vesicatories of cantharides, and other acrid or caustic substances, to be laid on each side of the neck; but they had not the same opinion of their usefulness, when applied to the back or shoulders. Heredia expressly tells us, that he had seldom found any benefit from them ‡. Neither do the Italian physicians seem to have been fond of them; the progress of the disease was, in their opinion, too swift to admit of any relief from either caustics or vesicatories §, both of which had been made use of in Spain ||.

To moderate the continual and malignant fever which accompanied this disease from the first, and which was thought by some to be only symptomatical, and had therefore the last place in their consideration **, they had recourse to such internal medicines as were deemed cordial and alexipharmac. Armenian bole, bezoar both animal and mineral, and, according to the philosophy of those times, the precious stones were reckoned of this class. Of vegetable products, the juices of citrons, lemons, oranges, pomegranates, and

* Si vero malum non mitescat, sed gravius affligat partem, quod constabit ex lucido aut nigro colore, vel ex nimia mollitudine—cum intolerabili fœtore, scarificabitur profunde, prout partis natura tulerit. Heredia, p. 105.

† Cort. Miscel. p. 697.

‡ Multi etiam vesicatoria consulunt spatulis applicata.—Quod auxilium parum prodesse semper vidi. Heredia, p. 108.

§ Sgambat.

|| Heredia, ubi supra.

** Febris etiam continua statim in initio apparet, symptomatica quidem. Heredia, p. 97.

forrel; vinegar, the juice and decoctions of borage, bugloss, *Carduus Benedictus*, endive, scabious, scorzonera, scordium, with many others of the like nature, were recommended. But a decoction of the contrayerva root was in the highest esteem in this disease, both as an alexipharmac in general, and for its peculiar efficacy, when applied as a gargle; to which Mercatus, from his own repeated observations, gives a very ample testimony*.

But as they found from experience, that no regular crisis or concoction of the humours was to be waited for; that no evacuations, except by way of revulsion, after the access, were of use †, they began to consider the disease as local, as a particular ‡ morbid affection of the *fauces*, and applied themselves chiefly to topics, without laying much stress on internals.

In this part of their directions they have therefore been more explicit; and some of them, in order to point out their applications with more propriety, have divided the course of this disease into four different periods §.

The first they called the state of inflammation. In this, mild repellents were thought necessary; such as vinegar in barley-water, juice of the pomegranate, syrup of roses, mulberries, purslain, or a decoction of barley, red roses, liquorice, and plantain; to two pounds of which were added *acet. rosar. ℥jss. syr. Diamor. ℥j. M.* || If it was required yet more repellent, a small quantity of allum was added.

The second stage is that wherein the white sloughs begin to appear, which is a step towards a gangrenous colliquation. In this they ordered mild abstersgents and antiputrescents; such as a decoction of lupins, beans, vetches, with honey of roses**.

The third is, when the ulcers appear foul and fordid, and begin to look black, a real mortification being come on, sometimes penetrating to a considerable depth, with great putrefaction. More powerful astringents and exsiccants were requisite in this case; such as powder of myrrh, and a little allum mixed with honey, or honey of roses; bole dissolved in treacle-water; a solution of *unguent. Ægyptiacum* in barley-water was also much in use ††.

* Hoc unum observantissimum habeo, nimirum omnes oris et gutturis collutiones efficere supra decoctum ejus celeberrimi medicamenti, quod medici Hispani Contrayerva nuncupant, maxime si mucofa et viscida pituita abundaverit. Mercat. Consult. p. 138.

† — Experimento monstratur, quamcunque evacuatio nem per alvum, aut sudorem inutilem esse et nocivam, quia cum non profit, necessario debilitat. Hered. p. 100.

‡ Cortes. Miscel. p. 703.

§ Sgambat. de Affectu Faucium pestilente.

|| Heredia, p. 105.

** Idem, ibid.

†† Celebris utilissimaque est unguenti Ægyptiaci lotura: sumuntur quidem ℥ij. et infunduntur in ℥ij. aquæ hordei, plantaginis, vel feri lactis: post infusionem percolatur per linteum, et colatura tangitur ulcus. Idem, ibid.

Allum, sulphur, copperas, verdigrease, oil of vitriol, oil of sulphur, spirit of salt alone, or mixed, or diluted in different liquors, were much employed. In this case, sometimes the acid spirits were dexterously applied to the parts affected, by means of an armed probe; but they were oftener diluted with syrup or honey of roses, and in children poured into the mouth.

Though many had recourse to these powerful remedies, and even to arsenic itself, yet the most experienced were justly afraid, that the use of such caustic and acrimonious applications was often attended with pernicious consequences, both to children and adults; and they are therefore, with good reason, condemned by Mercatus *.

Nevertheless some went so far as to advise the actual cautery, if the potential ones did not succeed, and gave directions for the time and manner of their application †; but as this operation will be liable to all the objections made to the former, to have mentioned it will, I imagine, be thought sufficient.

Though the author last quoted advises us to scarify the black or livid crusts or sloughs, yet he gives us a caution not to tear them off, or forcibly to separate them, as the consequences would be an increase of pain and inflammation; whence the ulcers would spread, and at the same time eat deeper ‡.

In the fourth stage the putrefaction is supposed to be extinguished, the mortified parts cast off, and an ulcer only remains. In this case, the fume of white amber thrown on live coals, and received into the mouth, as a *suffitus*, was advised; also the *vinum myrrhites*, a decoction of guaiacum, roses, balaustines, pomegranate-peels, by way of gargle; medicines that were supposed to dry with some degree of astringency.

Such was the appearance of the *Angina maligna*, or ulcerated sore-throat, at its first being taken notice of in Europe; and such were the methods of treating it then in use. In this recital I have been the more prolix, inasmuch as the disease described in the following pages, is the same with the *Angina maligna* of these writers, with whose experience and observations it may doubtless be of use to us to be acquainted.

* Ego quidem arbitror, plures pueros interfecisse usum horum medicamentorum, quæ caustica sunt, quam affectionem ipsam. Merc. Consult. p. 139.

— compertum habuimus in hoc viro, et aliis laborantibus, hæc caustica inflammationi et ulceri summopere esse nocua: suppurantia corruptioni. Id. p. 40.

† Heredia, p. 106.

‡ Idem, p. 109.

P A R T II.

Of the SORE-THROAT attended with ULCERS;

As it has appeared in THIS CITY, and Parts adjacent.

ACCORDING to the information I have received from several eminent persons of the Faculty, it was in the year 1739, that a disease was first taken notice of, which was thought to be the *Morbus strangulatorius*, already described, and which differed in no essential circumstance, as far as I can learn, from the distemper which is the subject of this treatise.

The sudden death of two children in a family of distinction, and of some others near the same part of the town, whose complaints had chiefly been of a Sore-throat, seem to have occasioned this suspicion: but as very few cases of the like nature occurred after these, or, if they happened, passed unobserved, little mention was made of it during several years.

It began however to shew itself again in 1742, but not in so general a way as to render it the subject of much public discourse; for though such of the Faculty as were in the most extensive practice met with it now and then, in the City especially, it remained unknown to the greatest part of practitioners, till within these two or three years, in which time its appearance has been more frequent, both in town and the villages adjacent.

I am informed, that in the winter of 1746, so many children died, at Bromley, near Bow, in Middlesex, of a disease that seemed to yield to no remedies or applications, that several of the inhabitants were greatly alarmed by it; some losing the greater part of their children, after a few days indisposition. Some others of the neighbouring places were affected at the same time with the like disease; which, from all the accounts I have met with from those who attended the sick, was that here treated of. I am informed likewise, that it raged at Greenwich about the same time *. It still continues in this City,

* The Reader may be pleased to take notice, that the facts contained in the following narrative, where the contrary is not expressly mentioned, have all come under the Author's observation,

City, and sometimes shews itself in the villages about it, though at present with so mild an aspect as seldom to prove fatal; unless the subject is very unfavourable, or the disease hath been neglected, or improperly treated at the beginning; which circumstances, though of some importance in all cases, yet are of the utmost in this; as a wrong step at the first may put it out of the power of art to afford relief.

Though this disease has now been amongst us several years, and has consequently survived the different seasons, and all the variety of weather to which we are exposed, yet it seems to shew itself most frequently in autumn, and the beginning of winter; at least I have met with many more cases from September to December inclusive, than in all the other months together.

It may likewise be remarked, that the summers of 1747 and 1748 were dry, with some days in each uncommonly hot, for this climate; the mercury in Fahrenheit's thermometer rising in the shade, and within doors, one day to 78, and during several to 75 and 6. The autumns of the same years were as unusually temperate and warm; the wind continuing longer in the southerly points than has often been known at this season.

In this country, as well as in those where the *Angina maligna* was first taken notice of, children and young people are more exposed to it than adults: a greater number of girls have it than boys; more women than men; and the infirm of either sex are more liable to have the disease, and to suffer from it, than the healthy and vigorous: I have seen but few adults of this constitution affected by it, and not one who died of it.

When it breaks out in a family, all the children are commonly affected with it, if the healthy are not kept apart from the sick; and such adults as are frequently with them, and receive their breath near at hand, seldom escape some degree of the same disease.

It generally comes on with such a giddiness of the head as commonly precedes fainting, and a chillness or shivering like that of an ague-fit: this is soon followed by great heat; and these interchangeably succeed each other during some hours, till at length the heat becomes constant and intense. The patient then complains of an acute pain in the head, of heat and soreness, rather than pain, in the throat, stiffness of the neck, commonly of great sick-

who has endeavoured to relate what he has seen, and in such a manner as he thought would best contribute to public advantage. It may also be necessary to observe, that the disease is described as it appeared in 1747 and 1748, that if the symptoms should hereafter vary in any circumstance, the diversity may be attributed to the nature of the distemper, and not imputed to design or inattention.

ness,

ness, with vomiting, or purging, or both *. The face soon after looks red and swelled, the eyes inflamed and watery, as in the measles; with restlessness, anxiety, and faintness.

This disease frequently seizes the patient in the fore part of the day: as night approaches, the heat and restlessness increase, and continue till towards morning; when, after a short disturbed slumber (the only repose they often have during several nights) a sweat breaks out; which mitigates the heat and restlessness, and gives the disease sometimes the appearance of an intermittent.

If the mouth and throat be examined soon after the first attack, the *uvula* and *tonsils* appear swelled; and these parts, together with the *velum pendulum palati*, the cheeks on each side near the entrance into the *fauces*, and as much of them, and the *pharynx* behind, as can be seen, appear of a florid red colour. This colour is commonly most observable on the posterior edge of the palate, in the angles above the *tonsils*, and upon the *tonsils* themselves. Instead of this redness, a broad spot or patch, of an irregular figure, and of a pale white colour, is sometimes to be seen, surrounded with a florid red; which whiteness commonly appears like that of the gums immediately after having been pressed with the finger, or as if matter ready to be discharged was contained underneath.

Generally on the second day of the disease, the face, neck, breast, and hands, to the fingers ends, are become of a deep erysipelatous colour, with a sensible tumefaction; the fingers are frequently tinged in so remarkable a manner, that, from seeing them only, it has not been difficult to guess at the disease.

A great number of small pimples, of a colour distinguishably more intense than that which surrounds them, appear on the arms, and other parts. They are larger, and more prominent in those subjects, and in those parts of the same subject, where the redness is least intense; which is generally on the arms, the breast, and lower extremities †.

As the skin acquires this colour, the sickness commonly goes off, the vo-

* The vomiting and purging were but seldom observed to accompany this disease, at its first appearance amongst us, as I have been informed by some physicians of eminence, who saw it early; but it is generally agreed, that these symptoms almost constantly attended, in the manner here described, during the years 1747 and 1748, the time in which these observations were collected: and I have since found, that the above-mentioned symptoms have not so regularly appeared as at that time.

† The redness and eruption have not accompanied this disease so regularly, during the latter part of this winter ‡, as they did in the preceding seasons: in some cases they did not appear at all; in others, not till the third or fourth day; and, as I have heard, in some not till the fifth, and even later.

‡ 1754.

miting and purging cease of themselves, and rarely continue after the first day.

The appearance in the *fauces* continues to be the same, except that the white places become more ash-coloured; and it is now discoverable, that what at first might have been taken for the superficial covering of a suppurated tumour; is really a slough, concealing an ulcer of the same dimensions.

All the parts of the *fauces* above-mentioned are liable to these ulcerations; but they generally are first discernible in the angles above the *tonsils*, or on the *tonsils* themselves; though they are often to be seen in the arch formed by the *uvula* and one of the *tonsils*; and also on the *pharynx* behind, on the inside of the cheeks, and the base of the tongue, which they cover in the manner of a thick fur. Instead of these sloughs, where the disorder is mild, a superficial ulcer, of an irregular figure, appears in one or more of these parts, scarce to be distinguished from the sound, but by the inequality of surface it occasions.

The parotid glands * on each side commonly swell, grow hard, and are painful to the touch: if the disease is violent, the neck and throat are surrounded with a large œdematous tumour, sometimes extending itself to the breast; which, by straitening the *fauces*, increases the danger.

Towards night, the heat and restlessness increase, and a *delirium* frequently comes on. This symptom, which appears in some even on the first night, seems to differ considerably from the like affection in other diseases. The sick commonly answer the questions put to them properly, but with an unusual quickness; they talk to themselves incoherently when left alone, and frequently betray the first tendency to this disorder, by affecting too great a composure: this, for the most part, happens to those who sleep but little; for some are comatous and stupid, and take little notice of any thing that passes.

In this manner they continue during two, three, or more days: they commonly grow hot and restless towards the evening; which symptoms, and the *delirium*, increase as night comes on: a sweat more or less profuse breaks out towards morning; and from this time they are easier during some hours, a faintness only continuing, of which they frequently complain more than of the rest of their sufferings.

The disease seems to have no stated period which can properly be called its *Ἀκμή*, or height. Some grow easier from the first day of the attack; but,

* Heredia takes notice of the same symptoms, and assigns a very probable reason for it.—In *Angina maligna non tument externa, quia in illas ex externis translata materia fuerit, sed quia ita adimplentur interna, ut materiam fluentem non capiant, et sic ad externa dilabitur.* Heredia, p. 99.

in general, the symptoms of recovery appear on the third, fourth, or fifth day, and proceed in the following manner :

First, The redness of the skin disappears ; the heat grows less ; the pulse, which was hitherto very quick, becomes slower ; the external swellings of the neck subside * ; the sloughs in the *fauces* cast off ; the ulcerations fill up ; the patient sleeps without confusion, is composed when awake, and his appetite begins to return.

The pulse, during the whole course of this disease, is generally very quick ; frequently 120 strokes, or more, in a minute : in some, it is hard and small ; in others soft and full, but without that strength and firmness which usually accompany equal quickness and heat, in genuine inflammatory disorders.

If a vein be opened soon after the distemper is come on, the blood generally appears of a fresh florid red ; the *crassamentum* is rather of a lax gelatinous texture, than dense or compact ; the *serum* yellow, and in a large proportion †.

The urine is at first crude, and of a pale whey-colour : as the disease advances, it turns yellower, as if the bile was diluted in it ; and, soon after the patient shews any marks of recovery, it commonly grows turbid, and deposits a farinaceous sediment.

They seldom have any stools, if the symptoms are favourable, from the time when the purging, which generally attends the accession, ceases. This discharge is frequently bilious, and without any pain : though these evacuations differ in different habits.

They complain of thirst commonly less in this than in other acute diseases. The tongue is generally moist, and not often furred : in some nevertheless it is covered with a thick white coat or fur, and these generally complain of soreness about the root of the tongue.

The *uvula* and *tonsils* are sometimes so much swelled, as to leave but a very narrow entrance into the gullet, and this entrance frequently surrounded with ulcers or sloughs ; yet the patients often swallow with less difficulty and pain than might be expected under such circumstances ‡.

They frequently complain, soon after they are taken ill, of an offensive putrid smell affecting their throats and nostrils, which oft occasions sickness before any ulcerations appear.

In those who have this disease in a severe manner, the inside of the

* At least, of all the parts about the neck, except the parotids themselves ; which sometimes continue swelled and hard a long time after the other symptoms abate, and at length suppurate.

† But it is often fizy when the disease has continued two or three days ; and in some instances which lately occurred, it was so soon after the first attack.

‡ I have seen many cases, where these glands were so enlarged, as to force back through the nostrils most part of what was attempted to be swallowed.

nostrils, as high up as can be seen, frequently appears of a deep red, or almost livid colour: after a day or two, a thin corrosive *sanies*, or with it a white putrid matter of a thicker consistence, flows from them, which is so acrid, as to excoriate the part it lies upon any considerable time. This is most observable in children, or in young and very tender subjects, whose lips likewise are frequently of the colour above-mentioned, and covered on the inside with vesicles containing a thin *ichor*, which excoriates the angles of their mouths, and the cheeks where it touches them.

It is probable, that part of the same acrid matter passes with the nourishment into the stomach; especially in children; and it is perhaps owing to this cause in part, that they suffer much more from the distemper than adults; this corrosive fluid, without doubt, producing the same effects on the stomach and bowels, as it does when applied to the much less sensible skin of the face; *i. e.* it excoriates the parts it touches; which, in fact, seems to be the case: for, if they get over this stage of the disorder, a purging sometimes succeeds, attended with the symptoms of ulcerations in the bowels; and after enduring great pain and misery, perhaps some weeks, they at length die emaciated. I have been informed, that some children have had the parts about the *anus* excoriated*; the *sanies* retaining its virulency through the whole tract of the intestines.

The sick sometimes bleed at the nose towards the beginning of the disease; and the *menfes* very often appear in those of the female sex who are of age to have them, soon after they are seized, notwithstanding the regular period is at a considerable distance: if they are taken ill about the usual season, the discharge is commonly greater than it ought to be. Some young persons, who never had the least appearance of them, have had this evacuation during their illness.

In strong and full habits, these evacuations are seldom attended with much benefit, or with manifest ill effects, unless they are very copious; for in this case they occasion great faintness, and an increase of the other symptoms, in proportion to the excess. In tender weak subjects they are often prejudicial.

It has happened in this distemper, that hæmorrhages from the nose and mouth have suddenly carried off the patient. I have heard of the like accident from bleeding at the ear: but these fatal discharges most commonly happen after the patient has been ill several days; and it seems more probable, that they proceed from the separation of a slough from the branch of an

* Some adults, who have had the disease in a violent degree, have suffered very much from the same cause: emollient mucilaginous liquids taken plentifully, and also applied externally, by way of fomentation, to the part affected, frequently give speedy relief.

artery, rather than from a fulness of the vessels, or an effort of nature to relieve herself by a salutary crisis*.

Bleeding in this disease has in general been observed to be prejudicial: some indeed admit of it at the first attack, without any sensible inconvenience; but a repetition of it, even where the disease is mild and favourable, seldom fails to aggravate the symptoms; and in some cases it appears to have produced very fatal consequences. The heat, restlessness, delirium, and difficulty of breathing, which this evacuation commonly prevents or mitigates in other cases, in this are increased by it: nor does the swelling of the *tonsils*, *fauces*, &c. seem to receive the least benefit from it; on the contrary, though the fulness of these parts decreases, yet the sloughs thicken, and change to a livid or black colour, the external tumour grows large, and the spitting commonly diminishes †.

Nor has purging been observed to be more beneficial: gentle cathartics have brought on very dangerous symptoms. Upon procuring a few stools with manna, especially when the disease has continued two or three days, the redness of the skin has disappeared, and the flux to the throat has been surprisingly increased: if it happens that this discharge by stool continues, the swelling of the neck commonly grows larger; the *fauces* become flaccid, dry, and livid; and the patient in a few hours after this expires: so that purgatives seem to have no better effects in diminishing the tumour, and abating the supposed inflammation, than bleeding.

Nitrous cooling medicines frequently produce the like effects; they increase that faintness which accompanies this disease, and either dispose the patient to copious sinking sweats, or to stools.

Upon the whole it appears, that all evacuations which tend to lessen the natural strength of the constitution, are in this disease injurious; and that those persons in common are in the greatest danger, if attacked with it, who have been previously indisposed, or have had their strength impaired by grief, or any other accident. Of this it may not perhaps be improper

* This, I find, was also Heredia's opinion, who considers a discharge of blood, either from the mouth or nose, as a sign of the utmost danger.—*Malignam significationem præbet segnis sanguis stillans e naribus; ex corrosione quippe vasorum, et putrilagine emanat, innuitque certissimam mortem, quia putredo interne cohiberi non potest:—ideo periculosissimus censetur sanguinis fluxus ex naribus aut ore. Quidam cum hoc signo nullum vidisse liberatum docent: nos vero unicuique solum ægrotum summa diligentia a tanto periculo vindicavimus. Heredia, p. 100.* Of three whom I attended, and who had this symptom, two recovered: the third died of a bleeding at the nose, before any assistance could be procured.

† The heat, indeed, and quickness of the pulse, seem at first to be affected by this evacuation, but they commonly return after a fallacious respite with greater violence; the patient is seized with a difficulty of breathing, falls into cold sweats, a stupor, and dies suddenly.

to relate an instance or two in this place, as it will also tend to explain the usual progress of the symptoms in the worst cases we meet with.

A young gentlewoman, about twenty-six years of age, of a pale lax habit, but of an active chearful disposition, had enjoyed a pretty good share of health in common, till a year or two before her last illness; about which time she unhappily made use of some external and empirical application to remove a redness attended with pimples, which now-and-then broke out in her face. She was soon relieved from this complaint by the medicine she used; but was quickly after seized with sickness, vomiting, loss of appetite, and either an obstinate costiveness, or a troublesome diarrhoea; the *menfes* were pale, and in small quantities; and her health in general was greatly impaired.

She had scarce recovered from this weak state, when the death of a near relation brought her almost into the same circumstances, from which she was slowly recruiting, when she married. Her sickness, vomiting, and loss of appetite, soon returned; which she concealed as much as possible.

Under these disadvantages, she was seized with this distemper, a day or two after she had visited an acquaintance labouring under the same disorder: it came on with a coldness and trembling like that of an ague-fit, great faintness, and an acute pain in her head, with a vomiting more violent than she was usually affected with, and a purging. Towards evening she grew very hot and restless, complained of a soreness in her throat, and the discharges abated. Her face, neck, and hands were intensely red: she frequently sighed, and from her aspect and gestures there was reason to suspect a delirium approaching. She slept little that night; and next morning her pulse, which before was very quick and small, seemed to be somewhat more full, but not sensibly slower; and she complained of faintness and anxiety. The parts about the *fauces* were much relaxed, very red, in some places almost livid, with a kind of glossy dryness upon them. She continued in this manner, without any remarkable increase of symptoms, till night, when the looseness returned, and in a very short time exhausted her strength to a great degree: the redness upon the skin disappeared, the extremities grew cold, her eyes became dim, her pulse scarce perceptible, she breathed with difficulty, and expired in the morning, on the third day of the disease.

Another young woman, who frequently visited, and sometimes assisted, a relation who had this disease, was attacked with it in the usual manner. She was about seventeen, of a pale and somewhat bloated lax habit, naturally inactive, averse to exercise, and was thought to have indulged some painful solicitude, to the prejudice of her health, and making way for an obstinate chlorosis.

Under these circumstances she was seized with the usual complaints, but in a violent manner. The purging continued till the day following; when it yielded

yielded for a time to the power of opiates; but constantly returned when their effects were over. The other symptoms, such as heat, restlessness, anxiety, and faintness, increased with the purging; the pulse was small, quick, and hard; a difficulty of breathing came on; the small remains of lustre in the eye perished; and she died early on the fourth day of the distemper.

No marks of any sloughs in the throat appeared in either of these cases; but the redness became daily more intense, and approached nearer to lividness, whilst the *fauces* could be inspected, which, from the great difficulty they had in breathing, was impracticable, several hours before the patients expired.

Warm aromatic cordials, and anodyne astringents, were administered assiduously, with suitable nourishment, and vesicatories applied successively to the neck, back, and arms, but without effect.

If the purging therefore continues long after the first exacerbation of the disease, it may be looked upon as a dangerous symptom: for though it be sometimes restrained for the present by opiates or astringents, yet it commonly returns with more vehemence when their efficacy ceases, and in a short time exhausts the small degree of strength remaining.

In this case they generally spit very little; the *fauces* appear dry, glossy, and livid; the external tumour grows large; they void their excrements without perceiving it, and fall into profuse sweats; respiration becomes difficult and laborious; the pulse sinks; the extreme parts grow cold, and death in a few hours closes the scene: and in no disease that I have seen, is the eye so early deprived of its lustre as in this; for it is sometimes opaque or dim several hours before death; and, as *Ætius Cletus* hath observed, is a fatal presage of its approach*.

A copious flux of pituitous matter to the glands, and other parts about the *fauces*, seemed to be the cause of sudden death, in a girl about twelve years old. She was seized in the common way, with shivering, head-ach,

* Heredia's description of the fatal progress of this disease, and the necessary cautions he gives in respect to the prognostic, deserve particular notice.

Fallacissimam esse hujus morbi naturam, consentitur omnes.—Ulceribus oris, et partium quæ visui existerant conspicuæ, recte curatis, et sedata inflammatione æger periclitatur.—Ex eo quod paulatim serpit putredo per asperam arteriam ad cor, aut per gulam ad ventriculum, sine aliquo dolore, aut febris sensibili, cujus sit habenda cura: et cum medicis auxiliis, ablata fuerint ulcera, et inflammationes sedatæ in partibus visui patentibus, occulta putredo, paulatim mortificans partes internas, tabe, parvissimis et debilissimis pulsibus extinctione caloris, refrigeratione extremorum, faciei extenuatione, inappetentia perpetua, et molesta mutatione decubitûs, somno fallaci, et apparente, quia vigilandi impotentia, somnum verum æmulatur, misere ægrotantes interficit, ut visum jam sit subita et inopinata morte periisse aliquos,—e lecto surgentes, et intra domos ambulantes; ubi quod etsi quæ vitiosa apparebant in faucibus, aut partibus aliis, in melius mutata conspiciantur, non licet salutem polliceri, quia solet communicari paulatim putredo, et gangræna partibus internis. Heredia, p. 99.

sickness, vomiting, and purging. The discharges abated in a few hours, and were succeeded by great heat, redness of the skin, and a sore-throat; the *uvula*, *tonsils*, and contiguous parts, were red, and so swelled in eight or ten hours, as to touch each other, and seemed to close the entrance into the *pharynx*. She breathed without much difficulty, swallowed with less pain than could be imagined, and spit up large quantities of phlegm. About six in the evening she was seized with a difficulty of breathing, as if strangled: those about her raised her up, thinking she was in a fit; she recovered herself a little, but expired upon being again laid down in bed, in somewhat less than twenty-four hours from the first attack. A large quantity of viscid phlegm, with which, after she was dead, her mouth appeared to be filled, together with the tumefied *uvula*, *tonsils*, and *velum palati*, had perhaps jointly closed the *rima glottidis*, and put a stop to respiration.

By a fall in her infancy she was reduced to the necessity of using crutches. She was big-boned, had a good appetite, and, for want of that exercise which persons at her age commonly enjoy, seemed to be plethoric. These circumstances, perhaps, might contribute to this speedy and unhappy event:

Accidents of the like kind seem not to have been uncommon while this disease continued in Italy, according to a remark of Cortesius*.

From the preceding account of the Sore-throat attended with Ulcers †, it will, I believe, appear, that this disease is widely different from a common Sore-throat, or simple inflammation of any of the parts about the *fauces*; both as to the subject commonly affected by it, the manner of its attack, the progress of the symptoms, and its conclusion: for the Sore-throat with Ulcers generally attacks children; and of these, girls more frequently than boys, as hath been observed. If adults are seized with it, they are commonly such as have been very much conversant with the sick, or else are weak and infirm: and it seems to affect those adults in the severest manner, who have been previously indisposed, or whose strength has been reduced by unseasonable or immoderate evacuations.

On the contrary, the common *Angina*, or an inflammation of the *tonsils*, most frequently attacks the healthy, the vigorous, and robust; the weak, the delicate, and infirm, are less exposed to it, at least suffer less from it, than the former.

*—Ad prædictarum partium (Uvulae, Tonsillarum) inflammationem subsequebatur interdum materia quædam pituitosa a capite tam repente et inopinato descendens, ut miseri ægrotantes subito suffocarentur. Cortes. Miscell. p. 697.

† The disease here treated of is, strictly, "a Sore-throat;" since by foreness we aptly express the uneasy sensation accompanying an ulcer (i. e. a fore) and not that which attends an inflammation, which is indeed pain, but not properly foreness.

As both diseases are attended with a fever; and as most fevers come on with shivering, or chillness, this symptom may at least appear equivocal: but if sickness, or vomiting, or purging, or an acute pain of the head, towards the back parts or top especially, or if all these come on in the space of a very few hours, which they generally do where the disease is vehement, it may justly be esteemed to be of the putrefactive kind; but if with these symptoms an erysipelatous redness discovers itself in the *fauces*, with ulcerations or sloughs, the disease is evident.

In some cases, the symptoms have been so obscure, that it was difficult to determine to which disease they properly belonged: but in these circumstances they were commonly so favourable, that, supposing the disorder not to be of the ulcerated kind, no other inconvenience seemed likely to ensue from treating it as such, than a suppuration; which is often an event rather to be chosen than avoided.

The redness of the skin in the face, neck, breast, and hands, is another obvious and distinguishing characteristic, which in children, and young people especially, seldom fails to accompany this disorder.

In the common Sore-throat, a local inflammation is the disease; all the symptoms are derived from this source; and an acute throbbing pain, greatly increased upon swallowing even liquids, is the principal grievance. In the other, the whole habit suffers, as if by a *stimulus* of a peculiar nature; and although the throat is always more or less affected, yet it is sometimes the least part of the patient's complaint; and instances have occurred to me of considerable sloughs being formed, before any soreness or pain in the *fauces* hath been mentioned.

Again, this disease is accompanied with a greater tendency to a delirium, than either a common *Angina*, or almost any other distemper we are acquainted with. To have this symptom appear, in the disease we are treating of, on the first night, is not uncommon; and on the second, frequent. A girl about eight years of age, whom I attended, was scarce known to be indisposed, till she alarmed the family, by appearing to be light-headed. She had made no complaint of her throat, nor was this part thought to be affected, till, upon examination, I found it so; being led to suspect it by the colour of her hands, and the delirium. She got well through the disease, though its progress, at first, appeared to be very swift.

A common Sore-throat, if the patient recovers, either goes off by resolution, or the parts affected suppurate; or, if glandular, become hard and schirrhous.

In that attended with ulcers, none of these circumstances happen; for it terminates in a superficial ulceration of some of the parts about the *fauces*, if the disease is very mild, with little appearance of any sloughs, and with

large and deep ones, of a white cineritious, livid, or black colour, if it is more violent.

It will not, perhaps, be difficult, from such a comparative view, to distinguish this disease from a common Sore-throat, or an inflammatory affection of those parts, in most instances: but there is another no less certain criterion, though too often a fatal one, which is the constant increase of symptoms upon bleeding, purging, and the liberal use of cooling antiphlogistic medicines: a method, which, as it seldom fails to remove a genuine inflammation, if it is early enough and assiduously pursued, so it is too often injurious in the present case; an instance whereof I think evidently appeared in the following subject.

A youth about fourteen years old, of a brisk, lively disposition, who had enjoyed a good share of health, saving that, for a few years past, a cutaneous disease, a-kin to a leprosy, had sometimes appeared on his head and arms, was seized one morning with a general uneasiness, and a disposition to vomit; he was put to bed, and a severe shivering ensued; his sickness increased, he vomited up every thing; had several purging stools that day, and complained much of his head, with some soreness in his throat. He was ordered to be bled, and had an emetic given him: this operated but little; he grew hot and restless, a deep redness spread itself over his face, hands, and arms, with a plentiful eruption of small pimples, which induced those about him to apprehend it was a common scarlet fever.

The next day, which was the second of the disease, his throat continuing sore, and the feverish symptoms increasing, a purge of manna was given him, which operated gently; and at night his head and throat being more uneasy, his heat still continuing, with a tendency to delirium, a blister was applied.

On the third, the symptoms not abating, he lost about ten ounces of blood. He had taken a cooling nitrous powder every four hours; this was now changed for one more cordial. At night he grew delirious, his fever increased, and he had some loose stools, which were rather encouraged than restrained, as it was hoped they might relieve him. Blisters were applied to his head and arms.

On the fourth in the morning I was sent for: I found him delirious, with convulsive twitchings; his hands were in constant motion, gathering the bed-clothes; his pulse was quick and weak, and his tongue parched. With some difficulty I looked into the *fauces*; they seemed to be pale in some places, intensely red or livid in others, with a glossy brightness: his excrements came away involuntarily; his eyes were languid and dim: he breathed with difficulty, fell into profuse clammy sweats, and died in a few hours after.

In some of the first cases I met with, the quickness of the pulse, the degree of heat, the apparent inflammatory redness of the eyes and face, and
pain.

pain in the head, sometimes urged me to order bleeding, especially if there were any marks of a plethora; but in these cases it did not appear to have any advantageous effects: so that, notwithstanding the vehemency of the symptoms above mentioned, it seems proper in general to omit this evacuation.

Cupping with scarification has been applied to the shoulders and back of the head, in order to remove an acute pain of this part, which is often complained of, but, as far as I have been able to observe, without much benefit.

It is necessary that the patient should keep in bed as much as may be, though the disease should seem to be slight: it has happened, for want of care in this respect, that a purging has come on, the redness of the skin disappeared, and a disorder which, with confinement alone, would probably have gone off in twice twenty-four hours, has been rendered tedious and difficult.

If we are called in at the first, while the sickness or vomiting continues, it will be of use to promote this discharge, by giving an infusion of green tea, camomile-flowers, *carduus*, or a few grains of *ipecacuanba*. In some instances, where the attack has been severe, and this method practised, the disorder has gone off with more ease than was at first apprehended.

If these symptoms do not abate with the operation of the emetic, small draughts of mint-tea, with a sixth part of red-port added to it, may be given frequently; together with some grateful and warm aromatic, cordial medicine, every four or six hours. The *Pulvis Contrayervæ simp.---comp. Confect. cardiac.-----*Raleigh. *Spec. arom. Vinum croceum; Aq. Menth. spirit. Aq. Alex. spirit. cum Aceta**; with others of the like nature, may be used for this purpose.

In this disease, it is at all times necessary to attend very carefully to the diarrhœa. For the most part it ceases with the vomiting, in less than twelve hours from the first attack: if it continues longer than this period, it is necessary to check it, otherwise it occasions great faintness, sinks the strength, and in the end produces very dangerous consequences. The aromatic cordials above mentioned; if they are given plentifully, commonly take off this symptom, as well as the vomiting; but if they prove ineffectual, recourse must be had to astringents and anodynes, in proportion to the exigence of the case; such as the *Confectio Fracastorii*, or *Elect. e Scordio*, dissolved in small cinnamon-water, and given *post singulas sedes*.

It is common for the redness, so often mentioned, to appear upon the skin, as these discharges abate: it has happened that this colour has gone off some-

* Vegetable acids, such as the juice of lemons, oranges, wood-forrel, verjuice, vinegar in small doses, and the like, as they are undoubtedly antiputrescents, may seem to be indicated; but their proneness to increase the discharge by stool, or profuse sweats, ought to render us very circumspect in using them.

times, and the patient has been brought into imminent danger, upon giving a mild cathartic: which circumstances, as they point out a close connection between them, indicate the use of a warm regimen, notwithstanding the heat and other symptoms might seem to forbid it.

A girl about nine years old, of a slender make, but healthy and active, was seized with this disorder. The sickness and vomiting went off, and the redness of the skin appeared soon after: the apothecary who attended her, judging it an inflammatory case, as she complained of her throat, bled her, gave her a cooling purge the next day, and afterwards some nitrous draughts. A plentiful efflorescence which covered the face, neck, and arms, suddenly disappeared; a diarrhœa came on; she grew restless, faint, and insensible. In this condition I first saw her on the third day of the disease; she frequently sighed, her pulse was quick, small, and hard, without any remarkable colour upon her skin; and the swelling on each side the neck large: it was not possible to examine the *fauces*, as she lay in a comatous motionless condition, her stools and urine coming away insensibly. A warm cordial mixture * was frequently given her, upon which the diarrhœa soon abated; and the next day the efflorescence again appeared upon her face and arms. From this time she continued to recover, though slowly, and was for some time attended with a cough and hectic heat.

Another symptom, which requires our attention in the cure of this disease, is an excessive faintness: of this they generally complain soon after they are taken ill, and continue to do so, if sensible, till the distemper begins to abate: the urgency of this symptom seems to indicate the degree of danger: it is more or less violent, as the disease is mild or malignant; and an abatement of it may be looked upon as a pretty sure presage of recovery.

Warm aromatic and gently stimulating medicines, such as have been already mentioned, as the most effectual to suppress the vomiting, and check the looseness attending this disease, have likewise been found useful in removing this symptom: and though the degree of heat, and quickness of the pulse, would be enough to dissuade a person who has not seen the disease, from giving them in so liberal a manner as necessity requires; yet we are not to be governed so much by these symptoms, as by the faintness, depression of the pulse, and increase of putrescency in the *fauces*. One dram of the *Confectio Raleighana* has been given to a youth not quite 15 years of age, every four hours, which was soon followed by a sensible amendment, and the decrease of the patient's restlessness, faintness, and heat.

Some of the Italian physicians forbid the use of wine in the cure of this

* R. Aq. Alexit. simp. ℥vj. Alexit. spir. cum acet. ℥jss. Conf. cardiac. 3ss. Pulv. Contray. simp. 3ss. Syr. Croc. 3ss. f. mixt. de qua capiat ægra coch. ij. tertia quaque hora.

disease, and the warmth of their climate might perhaps make this caution necessary; but as it is a generous cordial, and at the same time antiseptic, it seems to be in no respect improper here; and, besides, in whey, I have allowed it to be given, freely, mixed with mint, baum, or sage-tea, barley-water, gruel, panada, sago, and the like; and alone, where the faintness has been excessive; the age, the former way of life, and the symptoms, affording the necessary rules as to quantity and kind. Chicken-water, or thin broth, may also be allowed, which is frequently very acceptable to the patient. And I don't remember to have observed so general and early an inclination after animal food, in any acute disease, as in this: for at a time when one would imagine, both from the condition of the *fauces*, and the degree of heat, that liquids would be the most acceptable, it is not uncommon to find children, who have this disease, extremely desirous of chicken, and cheerfully complying with directions, in hopes of being gratified in this respect.

Blisters are likewise of use to relieve the faintness. At first I was in doubt, lest the flies, by their acrimony, should increase the putrescent disposition, and consequently aggravate the disorder they were intended to remove: but no such effect having appeared from their use, I have ordered them to be applied, and I think with advantage, both to the usual parts, and to the neck on each side from below the ear almost to the clavicle, as occasion required*.

The ulcers in the throat demand our early and constant attention, as a considerable loss of substance cannot here be suffered without immediate danger to life itself, or the most injurious consequences to the future action of the parts, if the patient survives.

Where the disease is of the mildest kind, a superficial ulceration only is observable; which may easily escape the notice of a person unacquainted with it. A thin, pale, white slough seems to accompany the next degree: a thick, opaque, or ash-coloured one is a further advance: and if the parts have a livid or black aspect, the case is still worse. These sloughs are not formed of any foreign matter spread upon the parts affected as a crust or coat, but are real mortifications of the substance; since, whenever they come off, or are separated from the parts they cover, they leave an ulcer of a greater or less depth, as the sloughs were superficial or penetrating.

When the tendency to putrefaction is stopped, these sloughs in most cases come off spontaneously; or their separation may be promoted by suitable remedies and applications: but it seems by no means adviseable to attempt it by force, or to scrape them off with the fingers or instruments, as Severinus

* It has been observed by several, that the discharge from blisters in this disease is in general both more copious at first, and continues longer than is usual in other cases.

proposes; since the experiment has been tried, but with such unhappy consequences *, as are sufficient to discourage one from persisting in this method †.

In a case where I was concerned, previous to my being called in, a surgeon had endeavoured to separate the sloughs by the assistance of his probe: he succeeded in his attempt without much difficulty; but was surprised to see the same parts covered the next day with thick, dark, ash-coloured sloughs, penetrating deep into the substance.

It is true, the sloughs have been sometimes scarified, from an apprehension that matter was lodged underneath them, without any manifest inconvenience; but as there are instances of fatal mortifications having ensued, it seems most prudent to decline the practice.

From under these sloughs, and from every part of the ulcers which they cover, a thin corrosive *ichor* is discharged, so acrid as to excoriate the external parts upon which it is suffered to remain. This is sometimes observable in adults, when the parts above the *fauces* are affected; the *ichor* in these cases flows through the nostrils, and frequently raises pimples and small blisters on the skin of the upper lip; but it is most obvious in children, who often have this part, the corners of the mouth, and the cheek on which they commonly lie, blistered or excoriated.

It is probable, as hath been already hinted (p. 206), that part of the same virulent matter, passing down the *œsophagus* into the stomach and intestines, acts upon them as it does upon the skin, when applied to it externally; it frets and corrodes the parts it touches, and produces that sickness, vomiting, purging, and faintness, which sometimes accompany this disease in different parts of its progress.

In children, and very young subjects, the symptoms arising from this cause

* Si quis tamen vel digitis, vel aliquo instrumento levi ipsam (materiam albam) auferre tentasset, quamvis operatio hæc fieret absque dolore, ea tamen ablata brevissimo tempore peribant ægrotantes; quod præ cæteris in Petro Soprano genero meo observatum est, cui cum hujusmodi mortificatio apparuisset in suprema superficie dictarum glandularum faucium, et palati, ita ut videretur esse maximo respirationi et deglutioni impedimento, chirurgus existimans posse facillimo negotio a subjectis partibus eam separari solis digitis, levissime quidem eam abstulit; quæ ablata, tantum abest ut juverit deglutionem aut respirationem, ut utraque potius actio læsa magis fuerit, unde brevissimo tempore miser, meo cum maximo dolore, mortem oppetiit; id quod etiam in aliis quamplurimis pueris sæpius observavi, et præsertim in ejusdem Petri filiolo nepoti ex filia, quinque annorum, mihi carissima, qui postpaucos dies eodem modo, quo pater, vitam cum morte mutavit. Cortes. Miscel. Med. p. 697.

† Quod si enim adhærentem adhuc crustam avellere aggrediamur, ulcerationes magis in profundum procedunt, et inflammationes consequuntur, augentur dolores, et in ulcera serpentina proficiunt. Heredia, p. 109.

are yet more dangerous: the natural softness and laxity of the parts liable to be affected, disposes them to suffer by it much more than adults: at the same time they are commonly alike incapable of promoting the discharge of this matter themselves, and of admitting assistance from others, being generally, if the distemper is not very mild, either comatous and stupid, or delirious and untractable. If gargles are injected, they either prevent them from reaching the seat of the disorder, by their tongues, or they swallow them, and the putrid taint of the ulcers, together; the mischief spreads beyond the power of art to restrain it; violent purgings ensue, or fatal hæmorrhages from the penetrating gangrene. And to this, perhaps, it may in part be owing, that children suffer so much more from this kind of Sore-throat, than adults*.

That this corrosive matter produces these effects is farther confirmed, by observing, that those whose throats are severely affected, if they have a plentiful discharge from the *fauces*, are seldom attended with sickness, vomiting, or excessive faintness; tho' after longer sleeps than ordinary, or a neglect of encouraging this evacuation, they have complained of sickness, and have had retchings come on: and in such cases, where there has been little or no discharge of this kind, the symptoms are commonly the most dangerous.

From hence it is obvious, that great advantages may be expected from the constant use of gently stimulating aromatic gargles; as they promote the discharge of the pituitous matter flowing to the *fauces*, and doubtless, with it, of some part of the corrosive fluid above mentioned: to which if we add antiseptics and detergents, in order to check the progress of the mortification, and cleanse the sordid ulcers it produces, every indication is provided for.

Where the disease is mild, the symptoms favourable, the sloughs superficial, or scarce perceptible, it may be sufficient to order a gargle of sage-tea, with a few rose-leaves added in the infusion; three or four spoonfuls of vinegar may be mixed with half a pint of the tea, and as much honey put to it as will leave it agreeably acid.

But where the symptoms are urgent, the tendency to putrefaction great, the sloughs large and thick, and the breath offensive, recourse must be had to more efficacious remedies: a composition like the following, varied only as the patient's age and the circumstances of the disease required, has in general been attended with very good effects. The proportion here

* Heredia takes notice of the same thing, and gives it as a principal reason why so many infants and children suffered by this disease.

Infantum et puerorum multitudo maxima periit, quia nec exspuere, nec excreare lentas et crustaceas materias possunt, et minus auxiliis obediunt. p. 100.

given may be used for adults, and the more active parts lessened for younger subjects.

℞ *Decoct. Pectoral.* ℥xij. cui inter coquendum add. *Rad. Contrayerv. contus.* ℥ss. *Liquori colato admisce Acet. Vin. Alb.* ℥ij. *Tinct. Myr.* ℥j. *Mel. opt.* 3vj. f. *Gargarisma.*

As the parts about the gullet are frequently so much affected, as to render it painful or impracticable for the sick themselves to make use of the gargle so freely as they ought, it is commonly ordered, that a few spoonfuls of this liquor, made somewhat warm, should be very often injected into the *fauces* with a small syringe; and especially before the patient swallows any thing, in order to wash off as much as possible the putrid *sordes* adhering to the ulcers, and prevent it from passing into the stomach and bowels *. In young subjects this method is the more necessary, as they don't always know how to manage a gargle to any purpose, did the soreness of the parts permit them to do it †.

As so much depends upon the frequent use of gargles, or rather of injections, a strict attention to this affair can scarcely be too strongly enjoined on those who have the care of the sick committed to them; since an assiduous repetition of these lotions not only promotes a discharge from the glands of the throat, which is probably of great use ‡, but retards the progress of the ulcers, by washing off the putrefactive corroding *virus*, and prevents a large train of very dangerous symptoms (see p. 216.); and has therefore been strenuously insisted on by several writers, by Mercatus especially §.

If the sloughs are large, and cast off slowly, they may be touched with *Mel. Egyptiacum*, by means of an armed probe; or if the condition of the *fauces* is such, that this cannot conveniently be done, a spoonful of the following mixture may be injected, and retained in the throat as long as the patient can endure it; the parts may then be washed two or three times with the gargle alone.

* The same caution was given by Heredia, and almost in the same terms.—Cujusque rei deglutitionem præcedat excrementorum oris excreatio, deterfio, ne lotionē venenosa excrementa cum rebus deglutiendis ferantur ad viscera. p. 109.

† — cum pueri nequeant gargarismatis uti, injiciantur cum syringa. Idem, ibid.

‡ Heredia, after having observed, that no evacuations by stools or sweat were of use in this disease, admits that some advantages may be expected from this discharge. Est autem aliqua spes in frequenti exspuitione, quando crassa et glutinosa excreatur. p. 100.

§ Cavendum est diligenter, ne sic affecti deglutiant propriam salivam, quinimo ora puerorum diligentissime sunt abluenda. Mercat. p. 137.

℞ *Gargarism. præscript.* ℥ij. *Mel. Ægypt.* 3j. *m.*

By the constant and regular use of these applications, if the patient is kept warm, and the method of treating him in other respects is observed, agreeable to what has been mentioned above, it seldom happens but that the febrile symptoms disappear, the sloughs come off, and the ulcers are disposed to heal in a few days; unless it be where mismanagement at first, malignity of the infection, or an unfavourable constitution, have one or all contributed to increase the disease, and to render its consequences more lasting and mischievous.

What effects improper treatment produces in this case, has already been observed. With regard to the matter of contagion, or the nature of that cause which so suddenly brings on such a train of symptoms as hath been described, little can be said with any degree of certainty: thus much, however, seems to be true in fact, that in some cases this disease appears to be of so mild a nature, and so benign, as to require but little assistance from art: persons even recover from it under the disadvantages of unskilful and injurious management; whilst, in others, the progress of the symptoms is so rapid, and the tendency to corruption so strong, that nothing seems able to oppose it. Just as it happens in the small-pox; the benign and distinct sort bears ill treatment without injury; in the malignant flux kind, the utmost art and experience are too often insufficient to conduct the distemper to a happy issue. Whether this diversity in the Sore-throat we are speaking of, is owing to a difference of constitutions, or of seasons; to the different quality or quantity of the contagion, or the manner of receiving it; or whether there are in reality distinct species of it; may perhaps hereafter be more certainly determined.

With respect to constitution, it may be further observed, that, in soft, lax, leucophlegmatic habits, and languid, inactive dispositions, every thing else being equal, the disease seems to proceed more slowly, to go off more irregularly, and to leave behind it more lasting effects. In some persons of the temperament described, though the fever has grown less, and all the symptoms abated in four or five days, yet the sloughs in the throat have continued almost a week after; whilst in the opposite constitution, though the disease has been much more acute, yet the symptoms have no sooner abated, than the sloughs have cast off, and the ulcers healed of their own accord.

A copious hæmorrhage from the nose, mouth, or ears, the last especially, coming on after the disease has continued three or four days, or longer, is a dangerous *phenomenon*: for, at this time of the distemper, it most probably proceeds from the branch of an artery destroyed by the mortification, and

laid open by the separation of the slough, as hath been already observed. If the vessel is therefore large, the bleeding may prove fatal to the patient in a very short time; or if he escapes for the present, the loss of a considerable quantity of blood at this time of the disease will occasion various ill consequences.

It is therefore absolutely necessary to endeavour to stop this discharge with all the expedition possible. If the patient is costive, it will be of use to procure relief in this respect, by clysters or suppositories, as soon as can be done: to apply vinegar, by means of tents, or otherwise, as near to the orifice of the vessel as we can: to convey the steam of it into the *fauces* and nostrils plentifully, and to keep the patient in a sitting posture, or his head raised as high as may be, and his upper parts moderately cool: if these methods do not immediately take effect, recourse must be had to more efficacious ones, amongst which we may rank the *bark* and *opium*.

It is not uncommon for hectic heats, night-sweats, want of appetite, and dejection of spirits, to attend those a considerable time, who have had the disease in a severe manner. Fresh air, asses milk, and other usual means of recovering the wasted strength, in a short time restore to such invalids their pristine vigour.

Having thus related the most material circumstances that have occurred to me in respect to the symptoms, progress, and event of this distemper, the *juvantia*, *ledentia*, and the accidents chiefly to be regarded in its cure, in such a manner as I hope will enable those who have not seen or known it, to distinguish it from a *common Sore-throat*, and to treat it with some degree of propriety and success when it occurs, I shall conclude with observing,

1. That the *Sore-throat attended with Ulcers*, seems to be accompanied with a strong disposition to putrefaction, which affects the habit in general, but the *fauces*, and the parts contiguous, in particular. And it seems not unreasonable to suppose,
2. That the cause of this tendency is a putrid *virus*, or *miasma sui generis*, introduced into the habit by contagion; principally by means of the breath of the person affected.
3. That this *virus*, or contagious matter, produces effects more or less pernicious, according to the quantity and nature of the infection, and as the subject is disposed to receive or suffer by it.
4. That putrefactive and malignant diseases, in common, admit of the most sensible and secure relief, from discharges of the peccant matter, either upon the skin in general, or on particular parts of the body.
5. That the redness, and cutaneous efflorescence, in the present case, may

may be considered as an eruption of the like nature, and therefore to be promoted by such methods as have proved successful in similar diseases.

6. That a cordial, alexipharmac, warm regimen, has been found by experience to be of the most use in such cases; and that bleeding, purging, antiphlogistics, liberally employed, either retard or wholly prevent these discharges.

Therefore, as to expel the morbid matter (3) seems to be the design of Nature, to promote this design by the measures that are approved by experience in analogous disorders, is the duty of the Physician.

A DESCRIPTION



ARBUTUS *Andrachne*.



ARBUTUS *Andrachne*.

Arbutus Andrachne

A
D E S C R I P T I O N
O F T H E
A N D R A C H N E *,
WITH ITS BOTANICAL CHARACTERS :

By G. D. EHRET, F. R. S. †

Read before the ROYAL SOCIETY, February 26, 1767.

FROM a short and crooked stem go off irregularly several branches bending in various directions; but the younger shoots mostly pointing upwards. The height of the shrub is now about four feet.

The stem and branches are of different colours at different seasons. In the spring, they appear of a greenish cinnamon colour: this is gradually heightened to almost a red during winter; towards the end of which, the epidermis peels off, and the new bark exhibits the like appearance as it had the spring before.

On the extremities of these branches, the shoots of the preceding year, which are of a deep red colour, are many leaves of different sizes, placed irregularly; the largest leaves were in length, when the figure was drawn, about four inches, and two inches and an half in breadth, of an oval figure: they are mostly entire, though the edges of some are lightly serrated: their surface is smooth and lively, but not glossy or shining. They are supported on the branches by footstalks about an inch long, of a red colour, and smooth.

* I have introduced this description of the Andrachne, though written by Ehret, as I have reason to think it was done under the influence of Dr. Fothergill. This beautiful exotic is now in a flourishing state at Upton, in the open ground: it is about twelve feet high. *Editor.*

† Philosophical Transactions, vol. lvii. anno 1767, p. 114.

The young leaves, at their first appearance, are of a faintish green, with a cast of yellow, yet beautifully shaded with red: their footstalks and middle rib are then hoary, but they lose this appearance as they grow older.

This very rare shrub produced its flowers, for the first time in England, in the garden of Dr. John Fothergill, at Upton, near Stratford, in Essex, May 1766. The principal spikes of flowers in this species of *arbutus* are erect, producing many side ones in a horizontal direction, their extremities inclining downwards. Each of these simple ramifications contain many white globular flowers, hanging on long hoary glutinous pedunculi, which are situated alternately. These spikes of flowers, forming a kind of loose tuft, with the bright bunches of leaves, have an elegant appearance.

CHARACTERS of the FLOWER,

T A B. VI.

Fig. *a.* represents a side view of the flowers; they are of a globular shape, and open into five obtuse reflex laciniaë, in the manner of the common *arbutus*.

Fig. *b.* a back view of the flower, upon which appears the calyx spread open, and closely adhering to the flower; it consists of five oval pointed leaves or divisions: around this calyx appear on the corolla ten visible nectaria.

When these flowers drop off, the calyx closes up, and embraces the tender germ. See Fig. *c.*

Fig. *d.* represents a flower separated from the calyx; it is inserted at the base of the germen. The ten nectaria, which are somewhat swollen, or raised from the corolla, and have transparent appearances, are also discoverable, whilst the magnified figure *e* lays the parts more distinctly in view. This is a remarkable character in this flower.

Fig. *f.* exhibits the flower laid open: it is smooth without, and hoary within; it contains ten stamina, which are inserted at the base of the flower; their filaments and apices embrace half the style.

Fig. *g.* two stamina magnified, the base whereof is a tender fleshy substance, hoary, and of a club-like shape; this diminishes gradually into a filament, upon which is situated a singular anthera: this anthera bursts at two apertures (as the figure represents), and disperses its farinaceous dust towards the style: from the top of this apex, comes forth, at the opposite side, two crooked forked horns, bending downwards in length of the anthera.

Fig. *h.* the germen or rudiment magnified. This is hoary; its base consists of a red fleshy substance, with ten obtuse angles. The style supports a small globular stigma, and does not exceed the length of the flower.

Fig.

Fig. *i.* represents a horizontal view of the germen, as observed through a lens: it has five regular loculaments or cells, though seemingly but one feed; but by a closer inspection, there appeared several embryo feeds in each cell.

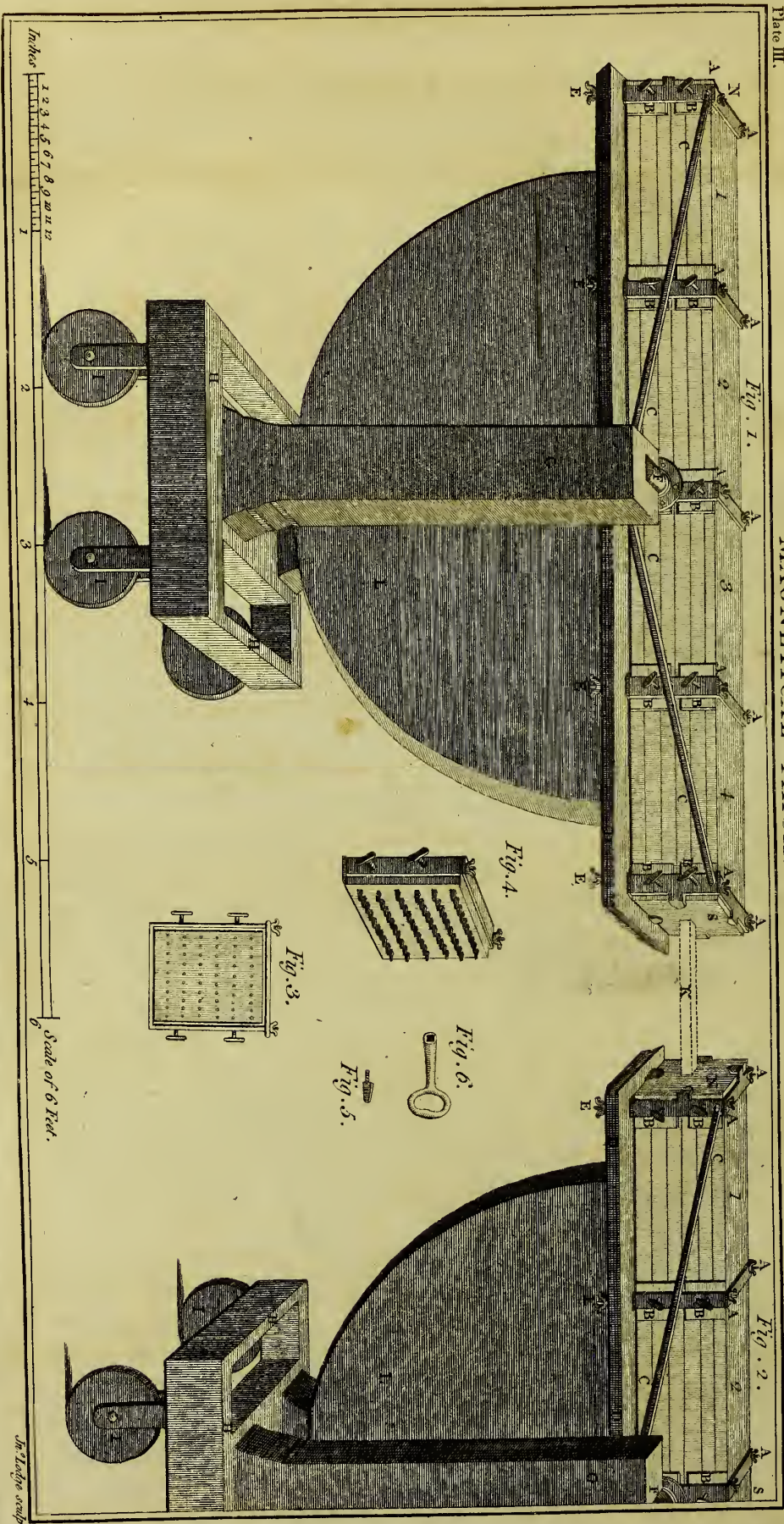
Fig. *k.* a dried fruit or berry of the Andrachne in its natural size, with an horizontal section. This fruit, which is tuberculous, I drew from a specimen consisting of the whole branch, leaves, flower-spikes, with many ripe berries, which was brought from Aleppo, by Dr. Alexander Russell; all which I examined and described at that time for my own satisfaction, and find them to agree exactly with the recent shrub above described. It likewise seems worthy of observation, that the plants raised by the gardeners by grafting or inarching the Andrachne upon the common arbutus, which is the method chiefly used in propagating this elegant shrub, differ considerably from the plants raised from seed, particularly in this, that the young branches, and the footstalks of the leaves, are very hairy, and the leaves themselves are all, without exception, deeply serrated like the arbutus. Dr. Russell also informs me, that the outer bark of the old stem and branches abroad, are for some months of the year of as beautiful a crimson, as the young shoots are here described to be, and doubts not but it will be so in this country, as the shrub grows older*.

* It may not be improper to mention, that the flower spike above described, with the glandular prominences, which were the rudiments of future flowers, made their appearance soon after Midsummer 1765: they advanced very slowly during the remains of summer; stood the winter under a slight cover, and made no great progress, till within a month of their flowering.

That plant, which produced these flowers, was one of several, which J. Gordon, of Mile End, was fortunate enough to raise from seed, sent by Dr. Russell from Aleppo, in 1754; and that this should be the only plant which has hitherto produced flowers, is probably owing principally to its having been divers times transplanted.

J. FOTHERGILL.

MAGNETICAL MACHINE.



A N
A C C O U N T
O F T H E
M A G N E T I C A L M A C H I N E

Contrived by the late Dr. *Gowin Knight*, F. R. S. and
presented to The Royal Society, by *John Fothergill*,
M. D. F. R. S. *

Read before the ROYAL SOCIETY, June 27, 1776.

To the President and Fellows of the Royal Society.

Gentlemen,

BY being left executor to your late worthy member, *Gowin Knight*, M. B. a very extraordinary Magnetic Machine of his contrivance, and which had cost him much labour and expence, came into my possession. This, I thought, might not be unworthy of a place in your repository; and I therefore desire your acceptance of it, as a monument of Dr. Knight's very singular abilities, and of my regard to the purposes of your institution.

I must, however, inform you, that this Machine, which, by the annexed figure, and its explanation, may be observed to consist of two parts, is by no means so strongly magnetical as it was at the Doctor's decease. Not long after this event, it was necessary to remove this apparatus from his apartments in the British Museum. One of these parts was fixed up in your Museum, the other was left at the lodgings of one of your very useful, ingenious members, *J. H. de Magellan*, for the purpose of some experiments, and also for impregnating strongly the needles of sea-compasses. Here it was accidentally destroyed by fire, and the parts it consisted of rendered almost wholly useless. A new one has, however, been made, and impregnated with the magnetical power, by the ingenious gentleman above-mentioned, accord-

* Philosophical Transactions, vol. lxvi. anno 1776, p. 591.

ing to the method of Dr. Knight. It has acquired a considerable degree of magnetic force, by being placed in the polar line with the other part of this machine that was unhurt, and where in time it will, perhaps, acquire a considerable degree of magnetic energy.

I wish it had been in my power to have given a minute and pertinent detail of my deceased friend's discoveries in this branch of knowledge. He acquainted me, it is true, at different times in conversation, of the progress he had made in these discoveries; but, as I then thought he intended to leave behind him an exact account of his experiments and researches, and their result, I only listened to his relations as matters of instructive amusement, not thinking it would ever be necessary for any other person than himself to give the public an account of his labours. Indeed, there are many useful memorials of his on this subject, in your collections, to which I must refer the inquisitive reader. I shall only mention some circumstances relative to this machine, which I do not know have been related either by himself or any other person.

The first thing, I believe, that engaged the Doctor's attention more particularly to magnetism, was the accident that befel a ship's compass from lightning; and of which, I think, he gave a very circumstantial account to the Society. This affair led him to consider the structure of the compass more minutely. He procured compass-cards ready-armed, as it is called, from different makers both at home and abroad. He found most of the needles strangely erring from due polarity; some being many points to the West, others as many to the East, of the right position. Amongst them all there was only one, which to him seemed constructed on a rational plan, and was of French make, procured from Marseilles; but even this was not without very evident faults.

To fix upon the proper form of a needle through which the magnetic effluvia could pass with the least interruption, to give the needle such a degree of hardness as to retain the magnetic influx the longest, and with the greatest force, were material objects; and, I imagine, a view to have such a degree of magnetic power at his command, as to force the magnetic virtue through the most consolidated bars, was his first inducement to try, whether he could not collect such a magazine of magnetism, as would be sufficient for every purpose of this kind, and at the same time exhibit some new phenomena in physics yet undiscovered. With this view he planned and executed the machine, described at the end of this relation.

His first attempt, however, was much smaller; a few bars were laid in the due course of the magnetic flux, and impregnated by constant attrition. To these, other bars were added successively, after they had been impregnated, both by the force he could give them by attrition, and what he could de-

rive from the preceding stock collected in the bars. To these he added still fresh bars, till he had formed the whole mass as it is now presented to you, and resting on wheels and pivots, in such manner as to be easily manageable for the purpose of impregnating the needles he was employed to see prepared, for the service of government, and others, who had generosity enough to think, that the compass, on which depended the lives of the ship's crew, could not be made too perfect, and that it deserved a reasonable compensation. It is to the Doctor's ingenuity and indefatigable attention to this useful instrument, that it has acquired amongst us a degree of perfection unknown to our predecessors.

When the machine was compleated, he still was adding continually to its power. He impregnated every single bar of which it is composed, by repeated attritions, and applied it to the remaining bars in their magnetic position. After this operation, he always found its efficacy, for a season, considerably diminished; for the effluvia of each bar, though increased in virtue, seemed not immediately to have acquired a communication with each other. However, it grew always more powerful after each of these operations; and it is more than probable, if a person could be found, who, with equal patience and skill, would, at proper distances, repeat the same process, that the present machine would acquire a degree of force superior to what the original ever possessed; for much depends upon time, and a due position. If to these was added a fresh impregnation of each single bar, by the means hitherto made use of, you would probably possess a larger fund of magnetic power, than exists in any artificial magnet now in being.

But if this cannot be obtained, if an able person cannot be prevailed upon to renew its vigour in this manner, it might possibly afford the curious some satisfaction to know, whether, in its present state, it loses any force, or acquires fresh virtue; to know, with some degree of precision, how much weight it will now suspend; and to observe annually its variation. I need not suggest, that a trial of this nature demands no small attention. Even the motion of a carriage in the street, though at such a distance as the Society's apartments, will make a considerable variation.

I do not know, that the Doctor left behind him any description of a composition he had made to form artificial loadstones. I have seen in his possession, and many other of his friends have likewise seen, such a composition; which retained the magnetic virtue in a manner much more fixed, than either any real loadstone, or any magnetic bar, however well tempered. In the natural ones he could change the poles in an instant, so likewise in the hardest bars; but in the composition the poles were immoveable. He had several small pieces of this composition, which had strong magnetic powers. The largest was about half an inch in breadth, very little longer than broad, and

near

near a quarter of an inch thick. It was not armed, but the ends were powerfully magnetic; nor could the poles be altered, though it was placed between two of his largest bars, and they were very strongly impregnated. The mass was not very heavy, and had much the appearance of a piece of black lead, though not quite so shining. I believe he never divulged the composition; but, I think, he once told me, the basis of it was filings of iron, reduced by long-continued attrition with water to a perfectly impalpable state, and then incorporated with some pliant matter, to give it due consistence*. Perhaps some

* The following account of Dr. Knight's method of making artificial Loadstones, was communicated by Benjamin Wilson, F.R.S. in a letter to Sir Joseph Banks, Baronet, P. R. S. Read before the Royal Society, December 17, 1778. Editor.

Sir,

The method of making artificial Loadstones, as it was discovered and practised by the late Dr. Gowin Knight, being unknown to the Public, and I myself having been frequently present when the Doctor was employed in the most material steps of that curious process, I thought a communication thereof would be agreeable to you and the philosophic world.

The method was this:—Having provided himself with a large quantity of clean filings of iron, he put them into a large tub that was more than one-third filled with clean water: he then, with great labour, worked the tub to and fro for many hours together, that the friction between the grains of iron by this treatment might break off such smaller parts as would remain suspended in the water for a time. The obtaining of those very small particles in sufficient quantity, seemed to him to be one of the principal *desiderata* in the experiment.

The water being by this treatment rendered very muddy, he poured the same into a clean earthen vessel, leaving the filings behind; and when the water had stood long enough to become clear, he poured it out carefully, without disturbing such of the iron sediment as still remained, which now appeared reduced almost to impalpable powder. This powder was afterwards removed into another vessel, in order to dry it; but as he had not obtained a proper quantity thereof by this one step, he was obliged to repeat the process many times.

Having at last procured enough of this very fine powder, the next thing to be done was to make a paste of it, and that with some vehicle which would contain a considerable quantity of the phlogistic principle; for this purpose he had recourse to linseed-oil in preference to all other fluids.

With these two ingredients only he made a stiff paste, and took particular care to knead it well, before he moulded it into convenient shapes. Sometimes, whilst the paste continued in its soft state, he would put the impression of a seal upon the several pieces; one of which is in the British Museum.

This paste was then put upon wood, and sometimes on tiles, in order to bake or dry it before a moderate fire, at a foot distance, or thereabouts.

The Doctor found, that a moderate fire was most proper, because a greater degree of heat made the composition frequently crack in many places.

The time required for the baking or drying of this paste was generally five or six hours, before it attained a sufficient degree of hardness. When that was done, and the several baked pieces were become cold, he gave them their magnetic virtue in any direction he pleased, by placing them between the extreme ends of his large magazine of artificial magnets for a few seconds or more, as he saw occasion.

By this method the virtue they acquired was such, that when any one of those pieces was held between two of his best ten guinea bars, with its poles purposely inverted, it immediately of itself turned about to recover its natural direction, which the force of those very powerful bars was not sufficient to counteract.

I am, &c.

of

of his acquaintance may have been more fully informed of this circumstance ; and it may be rendering great aid to future enquirers, to know every thing that can be collected relative to so curious a subject.

Lest the machine itself should be destroyed by the same accident as that which destroyed a part of it, I thought an exact representation of it, and its several parts, might be the best means of preserving it to future times, if inserted in the Transactions of the Royal Society.

EXPLANATION of the PLATE.

Plate III. shews the magazines according to the Doctor's last disposition of them. The two being perfectly alike, therefore fig. 2. contains only the half of one of them. Each magazine consists of 240 bars, disposed in four lengths, marked 1. 2. 3. 4. ; every length containing sixty bars, placed in six courses or layers, in contact one on another ; and ten in each course, placed side by side, in contact also. The bars being very nearly of a size, the ends of those in one length are in contact with the corresponding ends of those in the adjacent lengths. The magnetical North-ends of these bars, in each magazine, are all directed one way towards *N* ; and the South-ends the contrary way toward *s* ; thick plates of iron cover these ends *N* and *s* ; the junction of the ends of the bars fall under the brass braces *AA*.

As it has been found difficult, after the final hardening of these bars, to preserve among them a perfect equality in size ; therefore, the contact of their sides are perfected by thin iron plates *BB*, slipped in between the braces *AA* and the junction of the ends of the bars : and these plates *BB*, being pressed by the screws passing through the sides of the braces *AA*, keep the ends of the bars in as close contact as their figures will permit ; and, that the bars may be kept end to end in contact, the iron plate at the North-end in fig. 1. and at the South-end in fig. 2. is perforated with sixty holes, one against the end of each bar, as shewn at fig. 3. with a screw fitted to each hole, as shewn at fig. 4. : every screw having a square head as at fig. 5. may, by help of the key, fig. 6. be turned, and, by pressing against the end of the bar in the fourth length, force it against its abutting bar in the third length, and so on till the bars, end to end, are brought into contact and kept so. The braces are in two pieces ; the sides and bottom in one ; and the other piece forms the top *AA*, which is held close to the bars by the screws passing through it into the upright sides of the braces ; and, to keep the braces at *N* and *s* steadily in their places, the two long braces *cc* are affixed.

As each of these magazines weighed about 500lbs. it became necessary to have them so placed as to be conveniently used. The Doctor, therefore, by
screws

screws fixed the braces, containing the bars, to a strong mahogany plank *DD*, about 1 inch and $\frac{3}{4}$ thick; the screws passing through the plank entered the bottom parts of the braces *AA*. Against the middle of the whole length, two strong brass plates are well fixed to the sides of the plank; to these brass plates are fixed two cylindrical gudgeons *F*, which projecting from the sides, like the trunnions of a cannon, lie in the sockets of the standard *G*, whereby the magazine easily turns, as on an axis; and is so well poised as to stand in any inclination of the line *NS*; and in this the equilibrium is assisted by the strong mahogany semi-circular pieces *LL*, fixed in a vertical position to the middle of the under part of the plank *DD*, on which the magnetic apparatus rests. The standards *G* are fixed to the square frame *HH*, and the whole supported on the four trucks *II*, whereby the two magazines are easily brought end to end, or set at a convenient distance, so as to admit a bar *K*, to be placed between the ends, to be made magnetical.

A Few years ago * some Physicians in London agreed to meet together for their mutual improvement in the practice of their profession. The reigning diseases of the season, with the methods of cure that were found most effectual; and new discoveries in physic, either here or abroad, more especially such as they themselves had either made or examined, were intended to be the principal topics of conversation.

The persons who formed this society, were either such as had the care of hospitals, or were otherwise in some degree of repute in their profession; and consequently had frequent opportunities of making observations themselves, and of verifying, in the course of their practice, the discoveries of others. When difficult cases occurred to any of them, the rest were consulted, and that method of cure, which appeared most likely to be attended with success, was tried, and the event communicated.

When these meetings had continued a considerable time, some of the members became desirous of making the public partakers of the advantages that might be derived from such an association: accordingly they, with some other Physicians, formed themselves into a society, for collecting and publishing Medical Observations and Enquiries.---Preface to the Medical Observ. &c. Vol. I.

Dr. Fothergill, if not the first projector of this important publication, has certainly been a very considerable contributor to it, as the many useful papers of his, extracted from it, will abundantly testify.

Editor.

* The Society's first volume was published in 1758.

O F T H E

USE OF THE CORTEX PERUVIANUS

IN SCROFULOUS DISORDERS*.

AS I do not remember to have met with many instances recorded of the effects of the Bark in Scrofulous Disorders, I take the liberty to offer the following observations on this subject to the Society, and submit them entirely to their correction and disposal.

About the year 1744, a poor woman brought her child, a boy between twelve and fourteen months old, and requested my assistance for a disorder in its eyes, that seemed to threaten total blindness. The eyelids were so swelled, and so exquisitely tender, that it was with difficulty I obtained the slightest view of one eye, the coats whereof seemed only to be affected: the lips were likewise much swelled; the glands about the neck enlarged; and the whole aspect denoted a scrofulous tendency.

I ordered a spoonful of a decoction of the Bark to be given three times a day, adding to each dose from six to ten drops of the *bals. polychrest.* or so many as might be sufficient to procure a laxative stool every day, the child being naturally of a costive habit.

The child was ordered to live upon light broth, and such tender animal food as the poor woman could procure; and to be kept from much fruit and vegetables.

By this method, in about a fortnight, he was able to bear the light; and, in a month, I had the satisfaction to see him perfectly recovered.

The success of this experiment induced me to repeat it as occasion offered. Not long after, a boy was brought to me, about seven years old, of a thin spare habit, pale sickly look, with the eyelids so much swelled, and the eyes so tender, as to be incapable of bearing the least glimmering of light; and his face was here and there crusted with moist scabs, which had almost covered his chin.

* From the Medical Observations and Enquiries, vol. i. p. 303. Read November 29, 1756.

I ordered a decoction of the Bark to be given, to the quantity of a spoonful and a half, three times a day; and a small pill, with one grain of calomel in a little conserve of roses, every other night.

This process was continued about ten days, when he was brought to me again: the eyes were less tender, and his face was somewhat cleared of the scabs: but as the season was then growing colder, the decoction was continued alone about a month, when the child had recovered better health than he had enjoyed during the preceding year: he could bear any light without pain, the scabs had disappeared, and the glands were become small and softer.

The spring following, his eyes again growing tender and painful, and other symptoms appearing of his former indisposition, the same remedies were repeated, and produced the same effects as before; and that he might be secured from the like returns for the future, I advised that he should take the decoction and pills for ten days or a fortnight, once in three months, for about a year. This advice was punctually complied with, and he remained free from any symptom of the disorder about four years, from the last repetition of the medicines, when he was seized with the confluent small-pox, at that time very rife and fatal, and died of the second fever.

In the year 1750, a poor woman brought her child, somewhat more than a year old, affected with a very painful scrofulous ophthalmy, to Dr. Clephane and me, then at Scarborough. A method like the former was directed, and we had the satisfaction to find, ere we left the place, that the child had reaped from it all the benefit we could wish.

A young gentleman, about seventeen, of a thin habit, in an employment that admitted but of little exercise, accustomed to a plentiful table, and deriving from his parents a scrofulous taint, desired my assistance for a large indurated parotid.

I directed a two-ounce draught of the decoction of the Bark, with about forty drops of the *tinct. guaiac. volatilis* to be taken twice a day, and to be continued during two months.

By the use of this remedy he grew strong and more florid: the tumour did not increase, but felt somewhat softer than at first. Having thus stopped its progress, I advised him to desist about two months, and then to repeat the same remedy: but no considerable benefit accrued from this second course; the tumour, though less than at first, was still observable.

Things remained in this situation about a year, when his chin and upper lip began to be covered with a thick yellow scab, moist and itching. This was both troublesome and disagreeable. I had recourse again to the Bark in various forms, but without the advantage I hoped for: it seemed to stop the progress of the distemper, but did not cure it. A course of *calomel* and *sulphur aurat. antimon.* in small doses, *viz.* a grain of each every night, gradually cleared

cleared his face of this disagreeable guest; but it soon broke out again. Bathing in the sea, and the use of Scarborough water upon the spot, at length extirpated this cutaneous disorder. The parotid however still continued swelled; but as he now began to acquire a more manly habit, it ceased to be conspicuous.

In this case I had just reason to apprehend that the Bark put a stop to the tumour's increase, and rather softened it; but this was all: and I have met with many other cases, in which the Bark has had the like effects; checked the speedy progress of the disease, restored a better state of health in various respects, and laid a proper foundation to proceed upon, in attempting a cure by other methods. I have likewise made use of the Bark in scrofulous ulcers, but hitherto not with the success one might expect.

I have at present under my care a boy about fourteen, a girl about ten years of age, and a third about seven of a very delicate habit. The two first are poor, and a charge to their parents, from a foreness in their eyes, that renders them incapable of bearing the light, or doing any thing towards their support. The last is obliged to live in constant darkness, though the child of persons in better condition. They have been in the course described above several weeks, and are daily recovering.

Sometimes I give the *calomel* pills above-mentioned with the decoction, especially if any symptoms of the worms appear, or if the case is attended with costiveness, and a discharge of acrimonious moisture on any part of the skin. But the Bark is the remedy I think chiefly to be depended on; and the dose should be as much as the patient can be prevailed upon to take; providing with equal care against costiveness and its opposite.

As I imagine the result of repeated observations will be more agreeable to your plan than a detail of particular cases, I shall conclude this narrative with remarking, that I have given the Bark, in cases similar to those above described, to children of different ages, to adults of both sexes, and in various conditions of life; and have found, that it may not only be given with great safety, but to manifest advantage, in many scrofulous complaints: inveterate ophthalmies generally yield to it; incipient glandular tumours are very frequently resolved, and their farther progress stopped; swelled lips, cutaneous blotches arising from the like cause, are healed, and the tendency to a strumous habit corrected, by a proper use of the *Cortex Peruvianus*.

There are few, I believe, who are conversant in the practice of physic, who do not find occasion, at one time or other, to be dissatisfied with the several methods and medicines hitherto recommended in the cure of the disorders I have been mentioning. A swelled lip, a blood-shot eye, will frequently baffle a course of efficacious remedies under prudent directions. When the disease is farther advanced, it grows more obstinate; the greater the number of parts
that

that are affected, the more the difficulties are increased. We have indeed a copious choice of alteratives handed down to us, all which, perhaps, have been, in particular instances, beneficial; but nevertheless they too often disappoint us. Most of the remedies proposed for this distemper, are such as seem recommended more with a view to alter the juices, than immediately to affect the solids: but we hitherto know much less of the nature of fluids circulating in an animal body, or how to alter them, than we do how to apply such medicines as affect the solids, and, in consequence thereof, produce certain alterations in the fluids.

It is not safe to infer, that the various kinds of salts have the same effects upon animal juices, whether taken from the animal, or circulating in their proper canals. Experience does not always warrant such conclusions. The digestive powers of the stomach, by the same means that they convert different sorts of aliments, some of them sufficiently acrid, into a mild and milky fluid, seem able to deprive the most pungent salts of great part of their activity. And this circumstance alone, in my opinion, renders a dependence upon one part of the *Materia Medica*, on which many pleasing expectations have been formed, much to be suspected; I mean the different kinds of salts recommended in strumous disorders. It is very certain that the effects of the acid and the alkaline salts greatly depend on the present disposition of the juices in the stomach and first passages. The neutral ones are not altogether exempt from the same influence; and should they pass unaltered into the blood, we cannot ascertain their effects upon it: and could we even do this, can it reasonably be supposed that a few drams of any kind of salt, however active, and properly adapted, mixed with so many pounds of blood, and other animal juices, could produce the effect we wish for, or be able to extirpate a disease, as the ancients expressed themselves, *totius substantiæ*, and fixed in the most inaccessible parts of the animal œconomy? The chance therefore of curing this distemper, by means of remedies designed to act on the fluids alone, is but little. It may indeed be urged, that salts, as stimulants, affect the solids as well as fluids; and that they may do so is granted: but in this case their operation is much confined; for it may be doubted, whether their *stimulus* extends beyond the first passages.

The aspect, habit, and age of strumous persons; the nature of their tumours in respect to their formation, progress, and issue, seem to indicate a general laxity of the solids, as well as great viscosity of the fluids, especially those contained in some particular series of vessels; which causes, when combined, proceed with a slow but constant efficacy to produce the worst of mischiefs, unless prevented by the interposition of some favourable change in the non-naturals, or by medical assistance.

It may indeed be disputed, whether the solids being first relaxed, the fluids do not become viscid, and unfit for their office, in consequence of this relaxa-

tion; or whether the juices are not first vitiated, and from them a laxity of the solids is inevitably derived. Cases may happen in which one or the other of these suppositions may, with great probability, be admitted; but in either case, since it seems beyond dispute, that the power of affecting the solids is more under our command than that of altering the fluids, it is reasonable to direct our applications in the cure of this distemper more immediately to the solids, as, without their assistance, the fluids must still remain in a morbid condition.

All internal remedies given by the mouth, and designed to act beyond the stomach, must be exposed to the efficacy of the powers by which digestion is performed: it is therefore incumbent upon the prescriber to consider how far the virtues of the medicines he gives, are liable to be affected in their transit to the parts where he is desirous they should act. Most of the saline remedies, as hath already been observed, are liable to great alterations in the stomach. Alkaline and acid salts may become neutral and saponaceous; neutral ones may be diluted, and disposed to run off immediately by the emunctories, and all of them contribute as little towards eradicating this distemper, as they do towards effecting the change we call digestion; a change whereby substances very remote from it are converted into an animal nature.

And it seems to me, that in the cure of all chronic complaints, however distant their seat may be from the stomach, those will have the greatest success, who attentively consider the present state of this organ; who remove every obstruction to its performing the office of digestion with ease, constancy, and expedition. For if digestion is well performed, the chyle is proper; the blood produced from this chyle is natural; the secretions, nutriment, and excretions, will be regular; health, strength, and activity, ensue; and diseases vanish. If digestion languish, the contrary happens, in spite of the best specifics, unless one part of their virtues be to restore the injured faculties of digestion to their pristine and natural state.

And from the most attentive consideration of the cure of many chronic complaints, and the most unprejudiced disquisition what share the medicines applied have had in effecting such cures; by much the greatest part of these distempers seem to have been removed, rather in consequence of the medicines given having had a certain effect on the stomach, and thereby enabling nature to do her own business, than by any specific operations on the particular seat of the distemper.

If the immediate cause of intermittents does not reside always in the stomach and first passages, it often does undoubtedly. An emetic sometimes cures it, bitters of all kinds often; astringents likewise: and, in a word, whatever has a power of assisting digestion, has, at one time or other, been recommended in the cure of agues. The Bark enjoys a degree of bitterness and astringency, that few other drugs are possessed of in the same proportion. Some are more
bitter,

bitter, but with less astringency; others are more astringent, but less bitter. There are many cases that yield to astringents, upon which bitters have no effect. There are others, that chamomile-flowers, wormwood, gentian, and the like, will often cure, in which astringents are of no use. But all these give way to the Bark, if the obstacles to its efficacy are once removed.

Strumous diseases are known to affect the glandular parts of the body particularly: they have been judged to proceed from obstructions of these parts; and it has likewise been the opinion of some, that, in all glandular obstructions, the Bark was an improper and injurious remedy.

It is well known how great prepossessions were raised against the Bark, soon after its discovery; so that those who were its greatest advocates, and, from experience, had the weightiest reasons to be so, could not altogether divest themselves of many apprehensions concerning it.

Sydenham imagines it capable of producing rheumatisms. It has been found since his time, to be an effectual remedy in this disease, under certain circumstances. Those who are subject to intermittents, are frequently liable to rheumatisms. Sydenham did not observe, that a transition from one to the other, was easy and natural. The state of the blood, in both cases, is nearly the same; the colour of the urine, regular exacerbations of pain, going off in profuse sweats, and many other particulars, are similar in both. Had more of the Bark been given, no such rheumatism had ensued: had the Bark been given before the rheumatism was fully formed, the Bark would have prevented it: had it been given when the pains remitted, so as to form a manifest apyrexia, the rheumatism would most probably have been cured.

The vulgar, at that time, took the advantage of such circumstances to strengthen their prejudices against this remedy. Nothing was more common at that time, and nothing more firmly believed by many now, than that the Bark produces "pains in the bones," that is, rheumatic pains; which however were not owing to its use, but existed, only because sufficient quantities of it had not been given.

Sydenham was not the only eminent person of the faculty, who entertained such unjust prejudices against this remedy: the great Boerhaave, who did much in the theory of physic, in respect to separating truth from falsehood, certainty from hypothesis; yet, in practice, submitted to the fashion of his country in too many instances. An unconquerable dread of the Bark was one of these: he saw many chronic complaints, wherein the Bark had been given, and attributed them, too readily, and from opinion, rather than experience, to the use of this drug; though probably those complaints arose from its not having been given in sufficient quantities. This induced him to forbid the Bark to many British students at Leyden affected with agues, till those very evils had befallen them, which he apprehended from the Bark; and some of them, to my knowledge,
fell

fell a sacrifice to this unhappy prejudice, which seems in part to have proceeded from the following circumstance :

The Bark commonly sold in Holland, is not so good as that which we keep in the shops in England ; for whatever is unsaleable here, will find a market in Holland ; part of which no doubt is consumed there ; and from hence might arise many inconveniencies sufficient to discourage the professor. If a certain quantity of good Bark is necessary to take off an intermittent, and a much smaller quantity is given, and the kind greatly defective in point of efficacy, it is very certain, that little benefit can be derived from it. The violence of the paroxysms may perhaps thereby be moderated, and the aspect of the distemper changed, though the disease itself may still remain, and be followed by a train of obstinate complaints, not proceeding from the use of the Bark, but merely from its not being good, and not being given in sufficient quantities.

The first attempts I made in the cure of some scrofulous complaints, by the Bark, afforded me sufficient encouragement to proceed : and I have now the satisfaction to know many young people, of both sexes, free from any appearance of this disease, who, in their infancy, had been infested with very painful ophthalmies, swelled lips, and the like complaints, in spite of many efficacious remedies which had been applied.

It will not however succeed in all cases ; but there are few in which a trial can be attended with much detriment. I have never known it avail much, where the bones are affected, nor where the scrofulous tumour is so situated, as to be attended with much pain, as in the joints, or under the membranous covers of the muscles ; for when it attacks these parts, the *periosteum* seldom escapes without some injury, in which case the bone will of course be likewise injured.

Here the Bark is of no effect : instead of lessening, it rather adds to the fever that accompanies these circumstances ; and, if it does not increase the force of the mischief, it seems at least to hasten its progress.

I commonly make use of a decoction like the following, as a form in which a sufficient quantity may be given, with the least disgust :

℞ Pulv. Cort. Per. ℥i. coque in aq. puræ lb. ii. ad lb. i. sub finem addendo rad. glycyrrh. incis. ℥ss. Colaturæ adde aq. nuc. M. ℥ii. M. capiat coch. ii. iii. vel iv. cum tinct. guaiac. vol. gut. x. xx. ad lx. usque, bis terve quotidie.

The powder soon becomes extremely disagreeable to very young patients ; and the extract, I think, is not so much to be depended upon, as may have been imagined. In making the extract, it is exposed to so much heat, as must have some effect upon its virtues, and perhaps not to their advantage : and in administering it, if great care is not taken to mix it intimately with a proper

vehicle, or some very soluble substance, in weak bowels it often purges, and not only disappoints the prescriber, but injures the patient. A small quantity of the *Cortex Winteranus* added, gives the medicine a grateful warmth, and renders a quantity of compound water less necessary. And a little liquorice, a few raisins, gum Arabic, or the like, added to the decoction before it is taken from the fire, by making the liquor viscid, enables it to suspend more of the fine particles of the Bark, and thereby improves the efficacy of the medicine, and, at the same time, renders it less disagreeable.

A
LETTER TO THE MEDICAL SOCIETY,
CONCERNING
AN ASTRINGENT GUM
BROUGHT FROM *AFRICA*.*

I hope that some of your correspondents may have it in their power to procure us a drug, which, from a few trials already made of it, promises great advantage to the public; I take the liberty to send the following description and account of it.

It is a hard brittle gum, of a deep red or almost black colour, and opaque; except the very minute fragments of it, which appear like bits of garnet, red and transparent.

It has no smell; but, applied to the tongue, it soon discovers a strong, but grateful astringency; and great part of it dissolves readily in the mouth, with somewhat of a mucilaginous sweetness, joined with its stypticity. When it is coarsely powdered, and thrown into water, about five or six parts in seven, as near as I can guess, soon dissolve, and communicate a deep red colour, and a strong astringent taste to the water: most of what remains undissolved appears to be resinous. This gum differs from the red lumps of the common gum Senegal, in being much more brittle; and from the *sanguis draconis* of the shops, in dissolving in water; and from both, in having so remarkable a stypticity when tasted.

Its external appearance, indeed, is so much like that of the genuine or unmanufactured *dragon's blood*, that a good judge may easily be deceived thereby; but its astringent taste and solubility in water manifest an essential difference.

I have had specimens sent me of an opaque reddish gum, but seemingly the produce of a very different tree, as it does not dissolve so readily in water as the former, and its taste is bitter and austere.

* From the Medical Observations and Inquiries, vol. i. page 358.

The first time I had any intimation of the gum I have been describing, was in a consultation with the late Dr. Oldfield; on account of an obstinate chronic *diarrhœa*, in which several efficacious medicines had been used in vain. On this occasion the Doctor one day mentioned the good effects he had met with in some such cases from a gum which he called the *true gum Senegal*, and described it to be of a deep red colour, a sweetish astringent taste, and brittle.

As I was at that time intent upon collecting and examining whatever had relation to the *Materia Medica*, I enquired for such a gum amongst the most considerable dealers and importers, but met with nothing that answered the Doctor's description.

A few years after this, in my return from Scarborough, I called upon an eminent druggist at York, who, amongst other curious parcels of drugs, shewed me the gum above described, for some of the finest dragon's blood, or *sanguis draconis* off. he had ever seen.

Upon tasting it, I soon discovered it was very different from any kind of dragon's blood yet known, and indeed that it ought not to be ranged under that name; as it was, for the most part, aqueous, manifestly altringent, and mucilaginous; from which circumstances, and its external appearance, I judged it was the gum that Dr. Oldfield had described to me under the title of the *true gum Senegal*; though I think there is good reason to object to this appellation, as the little we have yet received comes principally from the river Gambia, and the common gum Senegal has been in possession of that name, so far as appears to me, from its first discovery*.

The gentleman who shewed me this drug, informed me, he had purchased it on board a Guinea ship at Hull: the whole parcel amounted but to a few pounds; all which he bought, and sold to the most curious of his customers, as a rare sort of the true dragon's blood:

This information induced me to look into the books of some of the later African travellers, in one of which, viz. *Moor's Travels into the Inland Parts of Africa*, we have the following accounts of it. In a letter of instructions from the Governor of James's Fort, in the mouth of the river Gambia, to our author at Brucoe, a factory up this river, dated May 27, 1733, is the following paragraph, p. 113, edit. 2d.

“ There is a red liquor that bleeds plentifully from the bark of a tree
“ called † *pau de sangue*, upon the incision, and in little time hardens to the
“ consistence of gum, which is of great value: and therefore you are desired
“ to use your utmost to procure large quantities of it.”

* If a name was to be given to the drug in question, it may not be improper to call it, *Gummi Rubrum astringens Gambiense*.

† The word *pau* seems to be a corruption of the Portuguese *palo*, signifying wood.

In reply to this, our author writes, the next month, to the Governor as follows :

“ I have sent a piece of gum, which I believe was taken from the *pau de sangue*; I desire you will please to examine it, and let me know if it is the right sort; because, if it is, I will do my utmost to procure large quantities of it.” And gives this further account of it at p. 148: “ I had always the utmost regard to all their (the Directors) orders, and therefore applied myself to enquire after any new kind of goods that could be had, particularly gum. The same having been repeated to me by Mr. Hull (Governor of James Fort) I sent him a sample from Brucoe, as I mentioned before, which proved gum dragon. I strove to get more of that kind, but, it being a new thing, the natives could not be prevailed upon to follow it, so as to bring in any quantities; for they would bring me in all kinds of gum, ten or twelve pounds at a time, which I picked, and did not find, perhaps, above two pounds of gum dragon in that quantity: the rest was like gum Senegal, but not so good.

“ Gum dragon comes out of a tree” (adds our author) “ called *pau de sangue*, which has a very rough bark; upon wounding of it, it sweats out in drops like blood; which joining together, and being dried by the sun, congeal into lumps. I have had some as large as pullets eggs.”

Perhaps it may be mentioned by other writers; but this account I think sufficient to direct any person, into whose hands your collection may come, and who may have occasion to traffic in that part of the world, to make proper enquiries after it.

You will observe, from the instructions given to our author, that at least some expectations had been formed of its usefulness; and indeed, from the trials that have been made, from its sensible qualities, and Dr. Oldfield's experience, I cannot but think it an article worth enquiring after, as it may in time become a valuable addition to the *Materia Medica*, as well as of some little benefit in commerce, and perhaps in colouring likewise.

The distempers in which this drug seems to promise some advantage, are, in particular, habitual *diarrhoeas*, *fluor albus*, immoderate menstrual discharges; and, in general, all such diseases as proceed from laxity and acrimony.

EXPERIMENTS

1874
The first of the year was a very dry one, and the crops were much injured by the drought.

The second of the year was a very wet one, and the crops were much injured by the rain. The third of the year was a very dry one, and the crops were much injured by the drought. The fourth of the year was a very wet one, and the crops were much injured by the rain. The fifth of the year was a very dry one, and the crops were much injured by the drought. The sixth of the year was a very wet one, and the crops were much injured by the rain. The seventh of the year was a very dry one, and the crops were much injured by the drought. The eighth of the year was a very wet one, and the crops were much injured by the rain. The ninth of the year was a very dry one, and the crops were much injured by the drought. The tenth of the year was a very wet one, and the crops were much injured by the rain.

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E X P E R I M E N T S
ON MIXING
OILS, RESINOUS AND PINGUIOUS SUBSTANCES
WITH WATER,

BY MEANS OF A VEGETABLE MUCILAGE:

In a Letter from Mr. *James Bogle French*, Apothecary in London, to Dr. *John Fothergill*.
With REMARKS by the same *.

Wood-Street, January 18, 1757.

S I R,

I MADE the experiments you desired, and I own with a success that exceeded my expectations. I may venture to assure you, they have been performed with so much accuracy, that, I believe, you may safely rely on any inferences to be made from them.

I am, with great esteem,

Sir,

Your most obliged humble servant,

JAMES BOGLE FRENCH.

Experiments on mixing Oil and Water by means of a Mucilage.

THE mucilage I first made trial of was the following:

I dissolved four ounces of clean gum Arabic in eight ounces of New-River water, which formed a mucilage of the consistence of a thick syrup.

EXPERIMENT I.

To two drachms of this mucilage, I put half an ounce of olive-oil, and one ounce of water. By agitation, the mixture assumed the appearance of an emulsion, and continued so, after standing about three or four minutes, when the oil and water began to separate.

* From the Medical Observations and Inquiries, vol. i. p. 412.

EXPERIMENT II.

I put the same quantity of oil and water to half an ounce of the mucilage. This mixture likewise, by agitation, soon became like an emulsion, and remained so as long as the former.

EXPERIMENT III.

I tried the same experiments with a like quantity of oil of almonds. A perfect uniform emulsion was produced; but, on standing three or four minutes, a separation ensued.

EXPERIMENT IV.

Two drachms of oil of almonds, half an ounce of the mucilage, and two ounces of water, were put together; these, by shaking, soon had the appearance of an uniform emulsion; though, on standing, they separated as in the former experiments.

EXPERIMENT V.

I put half a drachm of the powder of gum Arabic to the same ingredients as in Experiment I. and found, that, by means of a somewhat longer agitation, the like union was obtained; and this was also more lasting. Of the several oils made use of in the experiment, I think the oil of almonds unites the most speedily, and remains united in the form of an emulsion, much longer than any of the others.

EXPERIMENT VI.

To one drachm of simple syrup, and one drachm of the mucilage, I put half an ounce of olive-oil, two drachms of proof spirit, and one ounce of water. These, by a short agitation, produced a very uniform emulsion, and retained this appearance several minutes.

EXPERIMENT VII.

The same ingredients without the syrup, in the same proportions, shook together an equal time, did not afford so equable a mixture, and a separation sooner ensued.

EXPERIMENT VIII.

To one drachm of oil of almonds, I put two drachms of honey, and one ounce of water. These, by agitation, were seemingly united; but soon parted upon standing.

EXPERIMENT IX.

Instead of the mucilage, I made trial of some of the more viscid syrups, but none of them succeeded so well as the mucilage: the syrup of marshmallows answered the best; though this but indifferently, and not without labour.

EXPERIMENT

EXPERIMENT X.

One scruple of the powder of gum Arabic, with one drachm of *balsam. Peru. capivi*, and *balsam. guaiac.* two drachms of proof spirit, and one ounce of water, unite easily by agitation. The *balsam guaiac.* by this means affords a mixture of a fine blue colour, lastingly uniform; with the *balsam. Peru.* it did not long continue mixed, tho' on shaking, it re-assumed a good appearance.

EXPERIMENT XI.

To one drachm of *balsam. capivi*, was put one drachm of the mucilage of gum Arabic, and one ounce of water. These, by agitation, presently formed a neat smooth draught, tho' the parts separated a little upon standing.

Experiments on mixing Oils, &c. by Attrition.

EXPERIMENT XII.

To one drachm of the mucilage of gum Arabic, I put two drachms of olive-oil, and one ounce of water. These, by moderate attrition in a mortar, formed a neat emulsion, and continued perfectly mixed many days.

EXPERIMENT XIII.

Oil of almonds and linseed, in the same proportions, treated as in the former experiment, made as perfect an emulsion, and kept united in the same manner.

EXPERIMENT XIV.

I varied the proportions of mucilage and oil, but found the mucilage would not keep more than double its quantity of oil, united with water, any considerable time.

EXPERIMENT XV.

A drachm of mucilage, and a drachm of *balsam. capivi*, being first well rubbed together, and an ounce of water added, formed an homogeneous milky liquor, which remained intimately mixed many days.

EXPERIMENT XVI.

The same quantity of yolk of egg, mixed the balsam and water as speedily, and the mixture remained united as long as the former; but the taste of this was more unpleasant.

EXPERIMENT XVII.

A scruple of the mucilage mixed half a drachm of *bals. Peru.* with an ounce of water, as perfectly and expeditiously as a like quantity of the *vitel. ovi*, and covered the taste of the balsam much better, though it parted sooner from the mucilage than the *vitel. ovi*, when thus mixed in equal quantities.

EXPERIMENT XVIII.

Balsam of Gilead, the thinner Strasburgh turpentine, the fine liquid resin of late years brought from Newfoundland and Nova Scotia, commonly called *balsamum Annapolitanum*, treated in the same manner, united with water as readily, by the means of the mucilage, as when the *vitel. ovi* is used, and the taste at the same time was better.

EXPERIMENT XIX.

To half a drachm of mucilage of gum Arabic, I put one drachm of *balsam. guaiac.* one drachm of proof spirit, and one ounce and a half of water, which, by attrition, made a very smooth draught, and did not separate: that by agitation (Exp. X.) was of a deeper blue colour; perhaps this was owing to the parts not being so perfectly divided; but both succeeded well.

EXPERIMENT XX.

I took one scruple of *gum guaiac.* in powder, one scruple of mucilage, and one ounce and a half of water, which I rubbed carefully in a marble mortar; I did the same with the *vitel. ovi*; and, on standing some days, it appeared that the gum was best suspended by the mucilage.

EXPERIMENT XXI.

Gum benzoin dissolved almost entirely by this management, and continued perfectly mixed with the water a considerable time.

EXPERIMENT XXII.

One scruple of *balsam. Tolu*, one scruple of the mucilage, with the same proportion of the other ingredients as in the former experiment, succeeded rather better, and made a neat draught full of the flavour of the balsam.

EXPERIMENT XXIII.

Myrrh half a drachm, mucilage of *gum Arabic* one drachm, first rubbed together, and then mixed with one ounce and half of water, formed a smooth uniform mixture, which continued equally united several days, when a small part subsided, but, upon shaking the mixture, soon resumed its former appearance.

EXPERIMENT XXIV.

The same quantity of myrrh readily dissolved, by attrition, in the same quantity of water, without the mucilage, but the different parts soon separated.

EXPERIMENT XXV.

Half a drachm of the common *styrax*, treated as the myrrh, (Exp. XXIV.) so far dissolved, as to communicate a strong but fine flavour to the water.

EXPERIMENT

EXPERIMENT XXVI.

I took five grains of camphire, with a scruple of mucilage of *gum Arabic*, and an ounce and half of water, and it formed a very agreeable draught, which, on standing some nights, separated but very little.

EXPERIMENT XXVII.

I melted bees-wax in spirits of wine upon the fire, and filtered off the spirit: half a drachm of the wax so treated, rubbed with a drachm of mucilage, mixed with an ounce and a half of water, so as to appear like an uniform emulsion; but this requires some labour: the wax soon swims at top, but easily mixes again by agitation.

EXPERIMENT XXVIII.

A scruple of *sperma ceti*, rubbed with an equal quantity of mucilage, makes an elegant draught: but more labour is here required than in the common solution with yolk of egg; the mixture continues, however, much longer homogeneous, the *sperma ceti* appearing only like a cloud on the top of the phial some days after; but, on agitation, becomes perfectly smooth, and its taste as little rancid as when the mixture was fresh made.

EXPERIMENT XXIX.

Four grains of musk, one scruple of the mucilage of *gum Arabic*, one ounce and half of water, of spirituous water and simple syrup, of each a drachm, with very little labour, form an agreeable draught; which appeared uniform, and continued so for some time, when the musk subsided a little, but, by a slight agitation, soon resumed its first uniform appearance.

EXPERIMENT XXX.

I took one scruple of *balsam. sulph.* with a scruple of mucilage, and one ounce and half of water; and this also mixed agreeably, and separated but little on standing some time: the taste was likewise less offensive than might have been expected.

EXPERIMENT XXXI.

With ten drops of oil of cloves, one ounce of water, and a scruple of mucilage of *gum Arabic*, a perfect union may easily be produced, and the mixture continues uniform many days.

EXPERIMENT XXXII.

I tried the same experiment with five drops of oil of cloves, anniseeds, and nutmegs, by means of the mucilage of *gum Arabic*, and an ounce and half of water, which readily united.

EXPERIMENT XXXIII.

A mucilage was prepared of clean *gum tragacanth*, dissolved in the same water, and of a similar consistence with that made from *gum Arabic*: with this mucilage I repeated the preceding experiments by agitation, but could not unite oil and water by this medium so speedily or lastingly as by the mucilage of *gum Arabic*, though I made use of double the quantity of mucilage to that of oil in some of the experiments.

EXPERIMENT XXXIV.

The mucilage of *gum tragacanth* was also tried with the balsams, by attrition, but a larger quantity was required, and the union was neither so perfect nor so lasting; though by simple agitation, double the quantity of mucilage mixed the balsam and water so well as to have the appearance of an uniform emulsion; but the parts soon separated.

EXPERIMENT XXXV.

Many of these experiments, by attrition, I repeated with mucilage of quince-seeds, made of the like consistence with the others I had used; and found the mixture succeeded very well, and in most of them better than with the mucilage of *gum tragac.*

EXPERIMENT XXXVI.

I likewise made trial of starch, reduced to a jelly by boiling it with water, and found that this also united many of the liquid resins; though on standing they separated: several syrups were likewise made use of for the like experiments, but scarcely any of these succeeded: syrup of marsh-mallows answers the best; but even this is inferior to a much smaller quantity of the mucilage of *gum Arabic* of the same consistence.

EXPERIMENT XXXVII.

I tried to cover the acid of vitriol by these mucilages, and found that of *gum Arabic* answered best; the quince-seeds better than the *tragacanth*; and that better than the *syrup altheæ*: these I did by agitation.

REMARKS.

R E M A R K S

ON THE PRECEDING EXPERIMENTS;

By *J. FOTHERGILL*, M.D.

IT may not be improper to acquaint the Society with what view the preceding experiments have been made, and what purposes they are intended to serve: I shall do this with as much conciseness as I can, and shall point out some of the advantages which I think may result from them.

In 1748, I received a MS. from a correspondent at Dublin, intituled, *A new method for the improvement of the manufactures of drugs*, in a treatise on the *elixir proprietatis*, which was printed here the same year under this title: at that time I ascribed it to Dr. Rutty, from whom I received it, though it was sent to me as the work of an anonymous acquaintance: but I have since been informed, the public is indebted for it to H. Barton, an ingenious apothecary in Dublin.

Though these circumstances may seem foreign to the subject, yet as I think the treatise above mentioned contains much useful instruction, and as I am obliged to it for the hint which gave rise to the preceding experiments, and for the advantages received from them, I think it is but justice to give the public this information.

Our author tells us (in page 20) that he dissolved gum Arabic in water to the consistence of a thick mucilage, with this made an union of turpentine with water, in the form of a neat, smooth emulsion: he likewise acquaints us, that the same mucilage, with some oil of almonds and common water, were mixed together in the form of an emulsion.

At this time I was engaged in some enquiries into the origin of amber; and, as I had many reasons to believe that it was a vegetable resin, reduced by time and a vitriolic acid into the condition we now see it, I imagined it not impracticable to produce a substance resembling amber in many of its properties.

To mix a strong vitriolic acid intimately with any of the vegetable resins; was a difficulty I could not surmount, till I met with the treatise above mentioned; for the oil of vitriol burns that part of the resin which it touches, the moment they come in contact; and if the oil is lowered with water, it will not mix by any other means I am acquainted with, so intimately, and without
burning.

burning the resin, as by the assistance of a mucilage; and I had the pleasure of observing, from the first essay I made, that the mixture instantly gave the fragrance of amber sufficiently strong and distinct.

Other affairs took me off from prosecuting this enquiry any farther at that time; but I have still made use of the same contrivance to exhibit several medicines in a liquid form, which, with respect to extemporaneous prescription, are some of the most untractable in the *Materia Medica*.

Expressed and essential oils, balsams, resins, gummi-resins, resinous tinctures, pinguious animal substances, by the means of a vegetable mucilage, are rendered to a certain degree miscible with water, and capable of being administered, in this form, as speedily and effectually, as by means of the *vitellum ovi*, the common medium now in use.

The mucilage has besides this further advantage; it is seldom foreign to the prescriber's intention; when he gives these substances, it is not known to disagree with the stomach in any case; which cannot be said of the *vitel. ovi*; it is not liable to become rancid and excessively prejudicial; and, what will be of weight with some compounders, it is much less expensive.

When I was satisfied, from my own experiments, that this method was in most cases preferable to any other commonly practised; and thought it might be of use to others; I prevailed upon J. Bogle French, an ingenious apothecary, with whom I was casually conversing upon the subject, to be at the pains of making some experiments, on purpose to determine, whether the proportions I had commonly used, were the most proper; whether any other mucilage would succeed better than that which I had commonly used, *viz.* the mucilage made from gum Arabic; and whether simple agitation would not, in many instances, render the mixture sufficiently uniform to be exhibited without disgust.

With this view divers experiments were tried, by putting the several ingredients mentioned into a phial, and shaking them together. This is all that is meant, when the union is said to be performed by agitation. And it appears from several of the experiments, that this process is all that is necessary to mix several liquids together, which have hitherto required much more labour by any other method, *viz.* expressed and distilled oils, the more liquid resins, and resinous tinctures.---There are however several substances, *viz.* the thick balsams, resins, and many others, that cannot be treated in this manner. These were first rubbed with mucilage in a glass or marble mortar, the other liquids then added, and, by rubbing them together, were well mixed. This is all that is intended when mention is made of mixture by attrition.

It will appear from the preceding experiments, that the mucilage of *g. Arabic* is, of all others yet tried, the most proper, and succeeds the most easily and lastingly of any. That by means of this mucilage, and in some cases even by
the

the powder of *g. Arabic* alone, not only oils and resins, but even pinguious substances may be reduced to the form of an emulsion with water. That though even a viscid syrup alone effects this union with difficulty, yet an addition of syrup to the mucilage, renders the union more perfect. (Exp. VI. VII.) That the addition of a distilled spirituous liquor does not prevent this union.

And that a proportion, like the following, will seldom disappoint the prescriber's expectation of forming a neat composition.

℞ *Aq. simp.* ℥iss. *Spirit.* ℥ii. *Balsam.* ℥i. *Mucilag. g. Arab.* 3ss. *Syr. simp.* 3i.

Or,

℞ *Aq. simp.* 3i. *Ol. amygd.* 3ss. *Syr. & aq. spir.* āā. 3i. *Pulv. g. Arab.* ℥i. *Vel mucil. g. Arab.* 3ss. *M. agitando.*

That, in some cases, the mucilage not only acts this part the best of any, but conceals disagreeable tastes, and covers extreme pungency.

That it preserves the substance it is thus united with, and cannot be in hazard of contracting the putrid rancidity that the yolk of eggs, the medium hitherto most generally used, is liable to.

That camphire and musk may thus be exhibited in a liquid form, with certainty in regard to the dose; whereas nothing is more uncertain than the present method of administering them in a liquid form; which, where the dose can be ascertained, is often the best.

For camphire given in substance, either in pills or bolus, unless it is very carefully mixed, will often occasion great anxieties, from the pungency of a large particle of camphire vellicating the stomach. And the present *julepum e camphorā* is seldom prepared alike in any two shops.

The same uncertainty attends the musk when given in a liquid form; for if the compounder values himself on the appearance of neatness, perhaps great part of the musk is thrown away. The mucilage, however, unites it with water so readily and intimately as to make the whole smooth and uniform.

Bees-wax, from the difficulty of giving it in a liquid form, has hitherto been very little used *internally*; though in painful diarrhœas and dysenteries, it seems to promise considerable benefit. From Exp. XXVII. it appears, however, that this substance likewise may be rendered miscible with water, by first making the *Butyrum Cerae Bateanum*, and then dividing it farther by the powder or mucilage of *gum Arabic*. Half an ounce of the wax so dissolved, with a pint of barley-water, a proper quantity of spirituous water, and a little syrup, forms an emulsion that in the cases specified may be given to advantage.

Sperma ceti beat fine in a marble mortar, with an equal quantity of the *Arabic mucilage*, forms a smooth paste, which may be kept for use in this condition many days. It grows somewhat dry and hard by keeping, but contracts

no apparent acrimony or rancidity. This paste easily mixes with water by attrition, and speedily forms an homogeneous milky liquor. This method of manufacturing the *sperma ceti* for extemporaneous prescription, seems the more worthy of notice, as the prescriber is supplied with a medicine less disgusting, and with more expedition, by this than by the usual means, and at the same time with more ease to the compounder.

The most common method of uniting oils and waters at present, is, by means of some volatile alkaline salt or spirit; but there are many diseases in which these are improper: oil is often prescribed in nephritic cases; to give it alone adds to the *nausea* which the disorder itself produces; here volatile spirits are foreign to the intention. The mucilage coincides with the general design, and produces an emulsion both grateful and salutary.

Another circumstance that renders this method of exhibiting oils preferable in many cases to that with volatile alkalies, is, that acids may be easily and agreeably given at the same time.

When I first began to use the mucilage for the purpose of mixing oil and water, in order to succeed the more effectually, I sometimes directed a smaller quantity of mucilage, and likewise of the volatile, than would, of themselves alone, be sufficient to unite the oil and water together. But this, instead of promoting, prevented it entirely: the mucilage curdled; its latent acid destroyed the alkali; and no lasting union could be obtained, even by long attrition. Hard calcareous waters likewise render the mixture difficult, sometimes impracticable.

But acids have no such effect; the union succeeds as well when dulcified spirits of nitre, elixir of vitriol, oil of vitriol, or any other acid I have yet tried, are added, as without them. Nay, their acidity is so far concealed, that a quantity may be given under this disguise, in a smaller compass than by any other way I am acquainted with.

A
L E T T E R
RELATIVE TO THE
CURE OF THE CHIN-COUGH*.

To the Medical Society in London.

Gentlemen,

THE *tussis convulsiva*, or Chin-cough, is for the most part so troublesome a disease, and sometimes so fatal, that every hint conducive to abate its violence, and prevent the dangers arising from it, will, I doubt not, be acceptable to you and the public.

I have for some years made use of the following antimonial medicine, in the cure of this disease, and often with so much benefit to the patient and satisfaction to myself, as to induce me to mention it casually to many of my physical acquaintance.

From several of these, I have received such favourable accounts of its success, as to strengthen my own opinion of its efficacy; and to esteem it, though not a certain cure in all cases, yet perhaps as useful a medicine in this distemper, as any we are yet acquainted with.

The composition is the following:

℞ *Pulv. e chel. cancr.* ʒß.
Tartar. Emetic. gr. ij.
Accuratè misceantur.

The testaceous powder, in this case, is not particularly designed for any other use, than that of making the *emetic tartar* divisible into very small doses with precision, and without difficulty. This proportion was fixed upon, as the

* From the Medical Observations and Inquiries, vol. iii.

whole is divisible without a fraction; each grain of the powder containing one-sixteenth part of *emetica tartar*. Where a very small portion of this is wanted, the bulk may easily be increased by the addition of some other, or the same testaceous powder: where more of the *emetica tartar* is wanted, the quantity of the dose is then sufficient.

One grain, one grain and an half, or two grains of this composition, may be added to five or six of any testaceous powder, and given in a small spoonful of milk and water, in the forenoon between breakfast and dinner, to a child of a year old: if this quantity does not prove sufficient to excite vomiting, it should be increased the next day to such a dose as will produce that effect; and, in this manner, let it be daily repeated about the same hour.

This time of day, *viz.* between breakfast and dinner, has been fixed upon preferably to any other, on these considerations, *viz.*

If the puke is given early, the stomach being empty, a straining, too great to be borne without detriment, might be occasioned.

Was it given in the evening, the child would, perhaps, be robbed of too great a quantity of nutriment. Children's breakfasts are, for the most part, soon digested; at least, so much nutriment is taken up in a short time, as that much inconveniency cannot ensue from the loss of aliment.

At night, when the fever is vehement, half the former dose of antimonial powder is given, with a few grains of *nitre*, and the *pulv. contrayerv. c.* This generally procures an agreeable *diaphoresis*, and takes off some part of that moisture which might probably have otherwise increased the irritation and oppression of the lungs.

It is but seldom that physicians are consulted at the beginning of this disease, as, for the most part, its access is slow, and gives but little alarm, till it becomes so evident, as to render it difficult to do any thing more than mitigate the symptoms.

But, in most cases, and in every stage of the disease, I have chiefly trusted to this process; seldom having occasion either to bleed, or to use any other kind of evacuation, unless to procure a stool or two daily, if the medicine above mentioned fails in this respect.

In this case a proper dose of *magnesia*, given at bed-time, with the antimonial, seldom fails of answering our expectations. Sometimes no very manifest advantage appears to be gained by this process in several days; but, if no material inconveniency arises, it will be right to proceed.

The first symptom of amendment usually is, that the fits of coughing become less frequent, the fever abates, and the breathing is not so difficult; the fits however do not seem to lessen much in point of violence, for some days; at length, however, the cough decreases, and every other symptom abates.

The child is then directed to take the puke only two days together, and omit

omit it the third. Every other day will soon suffice, and, then, once or twice a-week till the cough is wholly gone.

During this process, they are directed to drink asses milk, to eat sparingly of the lightest meats, broth likewise, and milk in any shape. Quantity is strictly to be regarded; for the more and oftener the stomach is filled, to the least degree of oppression, the longer the disease continues, and with greater violence.

The ablest of the faculty, and those of the most extensive experience, have found, that to empty the stomach of its contents frequently has been the means of affording most relief. Oxymel of *squills* and *ipecacuanha* have stood foremost in the list of remedies for the Whooping-cough, a considerable time; and this apparently from the good effects observable from their operation.

This induced me to make trial of the remedy in question, as having these particular advantages.

The medicine is almost tasteless, is in quantity very small, and may be given in the most unsuspected vehicle; no inconsiderable benefits, where we have to do with such patients as are most exposed to this terrible distemper.

It is, undoubtedly, more antiphlogistic than either of the medicines above mentioned, is less irritating in general, yet operates with equal certainty, and, perhaps, more energy.

It is a powerful diaphoretic; the good effects of which, in this case, have been already mentioned.

One thing, however, may be necessary to observe, in respect to the preparation I have described. It has been hinted to me, that it will not long preserve its efficacy; and this decay is supposed to arise from the tartar being robbed of its acid by the absorbent powder. This, if true, should induce persons to mix but a small quantity at once, to keep it perfectly dry, taking care especially, that the *emetic tartar* be prepared by a skilful hand.

I have purposely omitted any reflections on the nature of this disease, or particular descriptions of its progress, any farther than as they were connected with the history of this medicine, as I know your design is rather to collect matters of fact than to build systems.

I would not, however, be understood to suppose, that this medicine will alone complete the cure of the Whooping-cough, at all times, and under all circumstances: I know it will not; and that this, as well as every other medicine, is useful or otherwise, just as it is indicated. *Cantharides*, the *bark*, *musk*, *castor*, and many other medicines, have doubtless been of great use in particular cases, and may be in peculiar epidemic constitutions.

O B S E R V A T I O N S
ON THE
U S E O F H E M L O C K*.

SOON after Dr. Storck's account of the *cicuta* was published, I had several opportunities of trying it in the disorders for which it was so strongly recommended; but, with many others of the Faculty, I had too great cause to lament, that a specific remedy for cancerous complaints was still undiscovered.

Nevertheless it appeared to be a medicine of great efficacy; and though it by no means answered my wishes in the cure of cancers and cancerous tumours, yet it seemed still worthy of farther trials, has proved beneficial in various obstinate complaints, and though I cannot produce one instance of a cancer cured by the *cicuta*, yet I can recollect several in which the pains have been mitigated for a time, the progress checked, and the discharge changed for the better in respect to colour, smell, and consistence.

The following case may perhaps deserve a place here, as one proof of these effects:

A gentleman, from one of our South American colonies, middle-aged, healthy, temperate, and active, had a wart-like substance grew up on one side of his nose, not far from the inner *canthus*; and as I remember from an accidental injury. It gave him no pain, nevertheless he frequently endeavoured to pluck it off; by which it grew fore and uneasy. A practitioner there, promising him a certain and speedy cure, applied *escharotics*, and increased the mischief.

Being thus disappointed of a cure, and the disease every day increasing, he came to England in the summer of 1763. The ulcer had, by this time, destroyed the teguments almost round the orbit, and eat deep into the upper side

* From the Medical Observations and Inquiries, vol. iii.

of the socket. The globe of the eye remained, but wholly useless in respect to vision, and almost without motion, the muscles being destroyed. The pains were acute both in the globe itself, and parts surrounding, which were exquisitely tender, and the ichorous discharge was extremely foetid. He had long been under the necessity of taking large doses of laudanum to procure some remission from pain during the nights.

Under these circumstances the *hemlock* was recommended to him. He took at first twenty grains a day, eight at noon, and twelve at night. This in a few days lessened his pain, and the quantity of laudanum was reduced in proportion. At length it was wholly laid aside, the *hemlock* mitigating the pain entirely, without producing costiveness, thirst, or head-ach. The dose of *hemlock* was gradually increased to seventy grains a day: if he proceeded farther, it either made him sickish, or created a singular kind of head-ach and giddiness. Sometimes he grew weary of taking it, and omitted it for several days, and returned to it again as his pain or other circumstances required. He is still living, and still continues to make use of the *hemlock*; and though the ulcer yet spreads, and most probably will do whilst he lives, yet its progress has been remarkably slow; compared with its advances before the use of this medicine; its aspect is more kindly, the discharge of a better consistence, and the stench, while he takes the medicine, is so much diminished, that those who have occasion to be near him can easily distinguish when he is taking the *hemlock*.

Various attempts were made with the *cicuta* externally, in infusions, decoctions, and solutions of the extract in different liquids and different proportions; but they all gave more or less pain, and left an uneasy stiffness round the edges of the sore.

In a cancerous affection of the tongue, the extract of *hemlock* procured great relief; it abated the stench and eased the pain: but the relief was only temporary, and at length it failed in affording any ease, or retarding the progress of the fatal disorder.

It is not very uncommon to perceive, in these dreadful evils, some abatement of the symptoms soon after taking the *cicuta*, but the effects are too seldom lasting.

I have given it repeatedly in tumours apparently of a cancerous tendency; it has seldom succeeded to my wishes, in large ones especially; in small incipient hardnesses in the breast, and other parts, I think it has been of use.

But the trials I have made of the medicine have not been confined to this class of disorders. In scrophulous distempers, I think it has been much more beneficial than in the preceding: the first case in which it was given, turned out so favourably, as to induce me to think of it with some partiality; and to use it freely, though I own not always with equal success. When the *cicuta*

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was introduced into public notice by Dr. Storck, the following case was under my care, *viz.*

A young gentlewoman of a thin habit, pale complexion, about twenty-eight years of age, had been afflicted at times, from her infancy, with scrophulous complaints, severe *ophthalmies*, glandular swellings, and other concomitants of this disease.

To remove these, no endeavours had been wanting; the ablest of the Faculty had successively been consulted, and many famed empirical medicines had likewise been made use of. She had taken, under my directions, a decoction of sarsaparilla, the bark, mild mercurials, sea-water, and other efficacious medicines, but without benefit.

When a trial of the *cicuta* was thought of, she laboured under the acutest *ophthalmia* she had ever endured; her pulse small and feeble, her rest and appetite diminished, the *menfes* in small quantities and pale, and every secretion irregular. The glands on each side the neck down to the clavicles, were swelled and hard, on one side particularly. And such was her extreme sensibility of light, that she sat constantly on her bed within thick stuff curtains, and the light was excluded with the utmost care; the opening of her chamber-door gave her much pain.

Such was her situation when we began the *hemlock*; it was in the infancy of its use, and the doses at first were small. Some weeks had elapsed before we got up to twenty grains a day. But the extract we used was good, and, small as the doses were, so much benefit was soon perceived as encouraged a steady perseverance and an augmentation of the dose. The *ophthalmia* quite went off, the swelling of the largest glands was considerably reduced, that of the smaller dispersed, a better state of health returned than she had known for any length of time together, and has continued so ever since. She persisted in the use of the extract constantly for more than a year, and without perceiving then or since any ill effects from it, in any respect.

I have since given it in many other scrophulous cases, and frequently with advantage, to adults especially; and indeed it is to them that I have for the most part prescribed it, as children seldom can take any quantity of pills, and in any other form it is disgusting, if long continued. If the extract in any respect disagrees, it is more difficult to learn this from children than adults; and, when given to children even in very small doses, I think it has produced slight spasmodic affections. For these reasons, I seldom use it in very young subjects, or in others of extremely irritable habits.

At the same time that the *cicuta* was administered in the case above mentioned, I made trial of it in the following:

A person of a thin and rather delicate habit, naturally healthy, about the thirtieth year of her age, began to have numerous red pimples break out about

her mouth, nose, and cheeks, with frequent and violent head-achs. The *menfes* became too copious, a *fluor albus* constantly followed; she grew costive, lost her appetite and strength; obvious indications of acrimonious juices, and relaxed solids; the consequences of much anxiety, labour, and sollicitude.

Her face grew daily worse, the pimples increasing in number, magnitude, and hardness; forming small tumours that sometimes suppurated, but always slowly and with great pain; now and then some of the largest assumed a livid hue, and continued long in that condition.

The utmost care was taken in respect to diet, both as to quantity and kind; she was extremely temperate in respect to liquors of any sort; and, if any errors were committed, they arose from too much exercise in her family, and too constant sollicitude.

To describe all the attempts that were made in order to mitigate these complaints, with their various success, would be useless, as they were ineffectual: it may suffice to observe, that she followed the methods prescribed for her with unremitting diligence, but without the desired effect.

She was attacked with a tedious depressed fever while these endeavours were using, which left the hairy scalp of her head almost covered with small *steatomatous* tumours, from the bigness of half a pea to the size of half a large walnut; the appearances in her face continuing the same, both in respect to number as well as pain, which, in frosty weather, was almost insupportable.

Though nothing cancerous could be suspected from her parents or her natural constitution, yet the hard livid tubercles on her face, yielding to no method hitherto attempted, created fears of their tending to mischief: and this put me on trying the *hemlock*. She took it at first in small doses, increasing the quantity as she found she could bear it; and she kept to it steadily, during the autumn, winter, and following spring.

The good effects soon became visible in every respect. Her face grew clearer and better than it had been for some years; the immoderate discharges were reduced to a reasonable quantity; the *steatomatous* tumours on her head were much lessened, and she enjoys better health, by the use of this medicine singly, than she has done for several years. When she finds any return of her former complaints, she constantly has recourse to the extract, which always gives her relief.

Permit me to mention a few more cases, in which I have used this medicine with advantage.

A middle-aged man, healthy, active, and temperate, was attacked with a pain in one cheek-bone, about the *antrum Highmorianum*, and for which he could assign no cause. It grew to be severe, and continual, but was sometimes heightened to a degree almost beyond bearing. Though a native of England, his residence was then in one of our North American colonies. He applied

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to many very able practitioners there, but without obtaining more than a temporary mitigation, by opiates. Mercurials, antimonials, alteratives, the bark, warm, cold, and sea-bathing; drains of every kind were made use of, but to no purpose. Several teeth were drawn, and an opening made into the *antrum*, but fruitlessly. The pain sometimes was abated, but it never wholly went off; its returns were frequent, several times in an hour; and so excruciating, as to produce spasmodic contractions of every muscle about the face and neck, and even affecting the whole body.

Under these circumstances he arrived from America, and brought with him an exact detail of the progress of his disease, and the means made use of for his relief.

Until I could have leisure to consider the case attentively, and what farther might be reasonably proposed, I ordered him to take the extract of *hemlock*, beginning with twenty grains a day, and directed him how to proceed in increasing it.

He called about a week after (the time I had fixed), when I observed his countenance to be somewhat less disturbed, and he owned himself rather better. He was advised to continue in the same method, which he did very constantly during the autumn and winter. In the spring, as he found himself much better, he took the medicine less regularly, and returned to America almost free from pain, and entirely so from any of those spasmodic contortions, which accompanied him almost incessantly at his arrival. He took no other medicine during the whole time.

The following case, perhaps, may likewise be worth reciting:

A healthy sober young man applied to me in the spring 1766, on account of a pain in his arm. The part affected was from about the middle of the *biceps*, down the inside of the arm to the wrist. He knew of no particular accident that had brought it on, except taking cold; it was deemed rheumatic, and he had endured it a considerable time before I saw him. It was neither swelled, discoloured, or sore to the touch; and alike uneasy, both day and night.

It was treated as a rheumatism; mercurial alteratives, decoctions of the woods, the bark in various shapes, antimonials likewise and anodynes, were made use of; but without gaining any considerable benefit. He then took the extract of *hemlock* in a full dose about a fortnight, when he found the pain began to abate. He continued it during the summer regularly, got perfectly well, and so remains.

A few instances of this kind naturally induce one to apply a remedy like this, in very dissimilar cases.

A married woman, between thirty and forty, a long time infirm, subject to coughs, hectic heats, and a train of complaints, arising from small *veronica's* be-

ing frequently formed in the lungs and discharged, applied to me soon after a large one had broke. She had then a copious purulent *hæmoptoe*, incessant cough, quick small pulse, night sweats, with loss of appetite, and loss of strength. Soft demulcent cooling pectorals were given, with anodynes frequently in small quantities, but to no purpose. A light decoction of bark with elixir of vitriol and anodynes succeeded no better. The extract of *hemlock* was then ordered to be taken three times a day, and to be washed down with a few spoonfuls of tincture of roses. The patient was ordered into the country, and I saw her no more, nor heard any thing of her, till I was informed, several months afterwards, that, from the time she commenced this course she began to recover, kept in town, and grew well.

I was induced to make trial of it in this case, from considering the most usual effects of *hemlock*. It is anodyne, corrects acrimony, and promotes the formation of good matter.

I have since made use of it in various pulmonic disorders, though but seldom with the like success. Where there are symptoms of tubercles forming, a strumous habit, and a tendency to *phthisis* from these causes, I believe it will often be serviceable. But to describe the various trials I have made, and the various success, would lead me beyond the bounds of an essay suitable to your design.

There are some things, however, which I must beg leave to mention more particularly, as they seem to me of consequence in the use of the *cicuta*.

It is well known with what avidity the public embraced the expectations given by Dr. Storck. Every body made the extract, and every body prescribed it. We soon found it would not perform all the wonders ascribed to it, and, falling into the opposite extreme, many declared it would do nothing, and dismissed it with disgrace.

Much of the extract hitherto used, has not, I believe, been made with due attention to the season when the plant is in its greatest perfection. So soon as the plant appeared strong and succulent, it was commonly gathered for use. But I know from repeated experiments, that the extract, prepared from *hemlock* before the plant arrives at maturity, is much inferior to that which is made when the *hemlock* has acquired its full vigour, and is rather on the verge of decline: just when the flowers fade, the rudiments of the seeds become observable, and the habit of the plant inclines to yellow, seems the proper time to collect the *hemlock*. It has then had the full benefit of the summer heat; and the plants that grow in exposed places, will generally be found more virescent than those that grow in the shade.

In respect to the manner of preparing this extract, it may be necessary to observe, that the less heat it undergoes the better. Therefore, if a considerable quantity of the dry powder of the plant, gathered at a proper season, is
added,

added, the less boiling will be necessary, and the medicine will be the more efficacious.

But let the extract be prepared in what manner soever it may, provided it is made from the genuine plant, at a proper season, and is not destroyed by boiling, the chief difference observable in using it, is, that a larger quantity of one kind is required to produce a certain effect, than of another.

I have found that twenty grains of one sort of extract have been equal in point of efficacy to thirty, nay near forty of another, yet both of them made from the genuine plant, and most probably prepared with equal fidelity.

To prevent the inconveniencies arising from this uncertainty, it seems always expedient to begin with small doses, and proceed, step by step, till the extract produces certain effects, which seldom fail to arise from a full dose.

These effects are different in different constitutions. But, for the most part, a giddiness affecting the head, and motions of the eyes, as if something pushed them outwards, are first felt; a slight sickness, and trembling agitation of the body; a laxative stool or two. One or all these symptoms are the marks of a full dose, let the quantity in weight be what it will. Here we must stop till none of these effects are felt, and, in three or four days, advance a few grains more. For the general experience of all who have used this medicine to any good purpose, with whom I have any acquaintance, agrees, that the *cicuta* seldom procures any benefit, though given for a long time, unless in as large a dose as the patient can bear, without suffering any of the inconveniencies above mentioned.

Patients commonly bear a greater quantity of the extract at night, than at noon; and at noon, than in the morning. The method I commonly follow is to order ℥ij. to be divided into thirty pills, not gilt. Adults begin with two in the morning, two at noon, and three or four at night, with directions to increase each dose, by the addition of a pill to each, as they can bear it.

The extract of *hemlock*, given in this manner, is apparently anodyne; it promotes rest, and eases pain. It seldom creates thirst, or that kind of morning head-ach, which succeeds an opiate of any kind.

It seldom occasions costiveness, but, in most, it procures a laxative stool the day following.

In some habits very small doses offend the stomach, excite spasmodic twitchings, heat, and thirst. In such cases I immediately forbid its use.

From the certain quality it possesses of altering the property of a thin, corrosive, cancerous ichor, and changing it to a milder fluid, I have been induced to try it in sanious ulcers, and gleety, painful discharges from the *vagina*, and often with success. Also in fixed excruciating pains, probably arising from acrimony, not dissimilar to that of cancers.

The *Materia Medica* is already loaded with a number of very inefficacious simples, and it would give me extreme concern to assist in adding another to the catalogue: but, from the observations I have had an opportunity of making, and from the concurrent opinion of several of my medical acquaintance, I persuade myself, that the *cicuta* will be an useful acquisition, and will assist us in the cure of many diseases, in which the medicines now in use are inadequate auxiliaries.

REMARKS

R E M A R K S

O N T H E

HYDROCEPHALUS INTERNUS*.

I Have for a long time propos'd to myself, to lay before you some account of a disease which occurs more frequently, I believe, than is generally apprehended, and is very often confounded with another, to which, in many respects, it appears not dissimilar; yet arises from a very different cause. At the same time, I must own to you, it is not in my power to suggest any probable means of curing the disease of which I treat: it has baffled all my attempts, both when confid'd in alone, and in consultation with the ablest of the Faculty. All that I pretend to do is, to exhibit such an idea of this disease as may serve to make it known when it occurs in practice, and to form such a prognostic of its progress and event, as may justify practitioners to themselves, and to the families in which such fatal occurrences may present themselves.

I have just perus'd Dr. Robert Whytt's history of this distemper, in his works, lately published, in a tract at the end. The Doctor has done more in elucidating this subject, than any of the writers I have seen. It will appear from what I have to say on this subject, that we perfectly agree in the seat of the disease, in most of its symptoms, and in its fatality. Nevertheless, in some points, our observations have led us to make different conclusions.

The diseases to which this I am treating of bears the nearest resemblance, are such as are suppos'd to proceed from worms; and what increases the resemblance is, that they are, for the most part, diseases of the same age. I have seldom met with the *Hydrocephalus* in subjects younger than three years; most frequently it has happened, in my practice, from five to ten; two or three from ten to thirteen, and two cases between seventeen and nineteen years of age. The last four were girls; the former mostly boys; and none of them peculiarly unhealthy before they were attacked with this disease. Most of

* From the Medical Observations and Inquiries, vol. iv. page 40. Read August 8, 1768.

them had gone through the small-pox, some the measles likewise; but without any reason to suspect that these had left any foundation for this terrible complaint.

It happened, that several of those who first of all came under my care in this disease, were either the favourites of the family, or the sole hopes of their parents. I do not mention this as having any thing to do with the disease itself, but as the cause of my not being able to learn what the distemper really was, so soon as I could have wished. It was difficult to ask, and still more difficult to obtain leave, under such tender circumstances, to examine the subject. At length, however, I succeeded, and, in several dissections, found the same cause subsisting; *viz.* a collection of clear pellucid lymph, amounting in quantity, by appearance, to two, three, or four ounces, contained in the ventricle of the brain, under the *corpus callosum*, from whence it was impossible to discharge it by any medicine or operation hitherto discovered.

The first case I met with I suspected was owing to worms, and thought myself fully justified in exhibiting the most efficacious anthelmintics I was acquainted with, applying such other remedies as particular exigencies required. When another case like this occurred, I early took the alarm, and requested assistance; but we were as unfortunate as I had been before. Once, sometimes twice in a year, for several succeeding years, I had occasion to see these unhappy objects. Of late years, they have not occurred to me quite so frequently, though I am now lamenting a disaster of this sort, which has deprived a large and honourable family of the only male amongst them.

Two or three instances I have met with, that had very strong appearances of being entered into the last stage of this disorder, but were happily recovered; they were actual worm-cases, and were cured by anthelmintics. I had been led, from these appearances that were so similar to those which attend the *Hydrocephalus*, to judge it was the same, and to form an unfavourable prognosis.

Dr. Whytt supposes, that the commencement of this disease is obscure; that it is generally some months in forming; that, after some obvious urgent symptoms make assistance necessary, it continues some weeks before it ends fatally. This, in general, differs from what I have hitherto observed. I have seen children, who, from all appearance, were well, healthy, and active, seized with this distemper, and carried off in about fourteen days. I have seldom been able to trace the commencement of it above three weeks. We know very well how often those who are unacquainted with these things ascribe the beginning of disorders to wrong causes, and date them from æras with which they have no connection. Thus every malady to which a child may be incident through the course of many years, shall be attributed to the small-pox, a worm-fever, or some other disease, that has thoroughly roused the parents fears, though that

very disease may have been happily terminated. One cannot be sufficiently upon one's guard in ascribing effects to causes that existed at a remote period.

In most of those whom I have seen in this distemper, a pain in some part or other below the head was the first thing they complained of; most commonly about the nape of the neck and shoulders, often in the legs, sometimes in the arms, but more rarely.

This pain was not always alike acute, nor always fixed to one place; sometimes it seemed not to affect any of the limbs. In these cases, the head and stomach seemed to be more disordered; and indeed were always disordered more or less from the beginning, as far as I could learn. When the pain was in the limbs, the sickness or head-ach was less; when the head became the seat of complaint, the pain in the limbs was seldom or ever mentioned: some had very violent sicknesses and violent head-achs alternately.

From being perfectly well and sportive, some were seized with these pains in the limbs, or with sickness, or head-ach slightly, in a few hours, commonly after dinner. Some have been observed to droop a few days before they complained of any part being much indisposed. In this manner they continued three, four, or five days, more or less, as the children were healthy and vigorous, when the distemper begins to shew itself in an alarming manner.

They then commonly complain of a most acute pain in the head, deep seated, and extending across the forehead from temple to temple. They are generally very sick between whiles, crying out in the most affecting manner, *Oh, my head! Oh, I am sick!* alternately, and with short intervals; dosing a little in these intervals, breathing irregularly, and sighing much while awake. Sometimes they only seem to breathe in sighs for some minutes together.

The pulse, from being regular as in health, as the disease creeps on becomes irregular; slower, for the most part, at first than it ought to be; it grows still slower as the pain increases, gradually likewise irregular, the strokes being made both with unequal force and in unequal times. The limbs, for the most part, are temperate, in respect to heat, after the first access, which is often attended with feverish heats, especially towards evening and the fore-part of the night, and till within a day or two of their dissolution; the pulse then becomes extremely quick, the breathing deep, irregular, and laborious, the heat excessive, and more general. The head is always hot from the first attack, and the *præcordia* likewise.

Almost every symptom that is known to attend an irritating cause existing in the brain, appears in its turn; first, pain in the limbs, sickness, and head-ach.

Short disturbed sleeps, startings, irregular pulse, watchfulness, and the pupils of the eyes much dilated.

They are unwilling to be disturbed for any purpose, are averse to light, take things greedily, and cannot bear any posture but that of lying horizontally.

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They attend less to objects; when asleep, great part of the whites of the eyes are seen, and they are undisturbed by any thing but moving them. Their urine comes away insensibly, and their stools likewise. They often scream out most piercingly, but complain of nothing. One or both hands are most commonly about their heads. At length the eye-lids become paralytic, the *iris* immoveable: an attempt to raise the eye-lids with the finger, two or three days before they die, gives them no apparent uneasiness. The heat of the head and trunk becomes excessive; a great heat and sweat spreads over the whole body, respiration is altogether suspirious, the pulse trembling, and quick beyond the possibility of counting, and the patient goes off gradually as the strength fails; sometimes a spasm finishes the catastrophe.

In this recital, many symptoms appear, that are familiar to worm-cases, teeth, and other irritating causes. Perhaps, it will be difficult to point out any that shall particularly characterise this disease. The pains in the limbs, and incessant head-ach, and sickness, seem to me the most certain intimations of the danger. These happen in other diseases of children, but neither so uniformly nor so lastingly.

Another circumstance likewise is familiar, if not peculiar to this disease: I recollect not one instance, in which the patient was not coltive, and in which likewise it was not without singular difficulty that stools were procured.

The stools are most commonly of a very dark greenish colour, with an oiliness or a glassy bile, rather than the slime which accompanies worms. They are, for the most part, singularly offensive. The urine shews nothing to be depended on: it is various both in colour and contents in different subjects; depending chiefly on the quantity of liquids they get down, and the time between the discharges of urine. From their unwillingness to be moved, they often hold their water a long time; twelve or fifteen hours, sometimes longer: they seldom complain of their belly: indeed when they complain of sickness, they mention their belly; but, if one desires them to point to it, they always lay their hand on the stomach. In disorders from worms, this is not so generally the case. In these complaints, and those attending dentition, spasms are more frequent than in the distemper I am describing. Children subject to fits, are sometimes seized with them a few days before they die; sometimes they continue for twenty-four hours incessantly, and till they expire; but this is not constant.

The most certain character marks itself indeed but too evidently, when one sees all those symptoms gradually advancing which attend a violent depression of the skull; when a comatous oppression seizes the brain, and diminishes, by degrees, all the faculties, till they are at length totally extinguished, either by some violent spasmodic efforts, or the *vires vitæ* being exhausted.

With Dr. Whytt, I have called this disease the *Hydrocephalus internus*, or dropfy

dropfy of the ventricles of the brain, till fome more appofite name can be given to it. From what remote caufes it may proceed, I am not fo well fatisfied as to decide on this point. Whether the breach of a lymphatic may not more commonly be the proximate caufe, is fubmitted to confideration. It is a diforder that happens, fo far as I have had an opportunity of obferving, more commonly to healthy, active, lively children, than to fuch in whom, from previous indisposition, there is room to fufpect an unequal or weakened abforption.

And indeed, if we confider the numberlefs little feats of activity that children of both fexes are difpofed to, we cannot wonder that a veffel of flight texture fhould give way on fome occafion or other. I am the more inclined to be of this opinion, from the progrefs of this difeafe in many of the cafes that I have feen of it; from reflecting on the *juvantia* and *lædentia*; and, from this circumftance being generally true, that in ftrong vigorous conftitutions, the difeafe is fatal in a fhorter time than in the tender and difeafed, though perhaps not lefs active difpofitions. Sometimes I have been told, that the difeafe was thought to have taken its rife from jumping from a confiderable height upon a hard floor, a fall, or fome pretty fmart exercife: but however favourable fuch accounts may be to the opinion already mentioned, yet I offer them with diffidence, and only with a view to promote further inquiry.

Were I to recite the different attempts to cure this difeafe, made both alone, and conjunctly with fome of the ableft in the profeflion, it would carry me beyond the bounds you have a right to prefcribe. It may be fufficient to mention, that, whenever I am called to a patient in the earlier ftages of this diftemper, I proceed in the fame manner as if the difeafe was fupposed to arife from worms, or fome caufe of irritation capable of being removed.

Three or four grains of *calomel*, or more, according to the age and habit of the patient, with *rhubarb* and the *pulv. e scam. compof.* are given to empty the bowels, if this has not been done before fufficiently. If the ftomach appears to be loaded, a quarter or half a grain of the *emet. tartar.* may be joined with it, and the ftomach washed with any fuitable liquor.

After this, it feems prudent to abate the vomiting by the faline, abforbent medicines, adding a few drops of the *tinct. Theb.* as occafion requires, giving broth, thin decoctions of hartfhorn-fhavings, and other fuitable fupport, as may be neceffary.

Anthelmintics in broth are thrown up in clyfters, and fmall dofes of anodynes occafionally exhibited. A decoction of *fem. fanton.* with thirty or forty drops of *ol. terebinth.* in three or four ounces of broth; or aloes boiled in milk. All heating medicines feem to increafe the malady; fo does much warmth in the room.

If the difeafe actually proceeds from worms, the fymptoms are moft com-

monly at a stand after this process, and, by a repetition at proper distances, it soon gives way; but, if the symptoms not only continue, but increase after a prudent repetition of these medicines, or such as different practitioners may have found to be successful in worm-cases, there is too much reason to fear that the distemper is of a more fatal kind, and that the most strenuous and well-directed endeavours will probably afford no relief.

One ought not, however, to cease attempting to mitigate the most pressing symptoms, by all the means in our power. The application of blisters, sinapisms, embrocations externally; the less heating antispasmodics, internally; and, at all times, taking care to keep the bowels, as much as may be, free from impurities, will, perhaps, afford sufficient means to answer every reasonable indication.

I need scarcely mention, that every opportunity of inspecting the body should be sought for by the Faculty. Dangerous and incurable as it seems to be, its seat only known, and its fatal issue, we ought not to despair of tracing its beginning a little higher, ascertaining the causes, and fixing its character with more precision. By treating the complaint, however, in the manner above mentioned, we lose no advantage: we are almost sure to succeed if the case be only worms; but if otherwise, we at least are treating it in the most rational method, increasing all the secretions, and thereby preventing any addition to the quantity of extravasated fluid, to the utmost of our power.

From the preceding description of this case, it will not be difficult to account for the symptoms; nor will it appear surprising, that the patients go off in the same manner as those who die of a depression of the skull; for it makes very little difference whether the external parts of the brain are crowded on the more central parts, or a fluid is perpetually pressed into the cavities, near the center, strongly forcing their sides and the brain itself against the skull. So far as one can learn from the unhappy subjects themselves, the kind of pain they feel, is not quick and darting, or like that of a boil or inflammation; but, though acute, is tensive, and as if forcing the head asunder.

When this paper was read to the MEDICAL SOCIETY, Dr. HUCK said, he believed that this disease was not confined to children, or such as were under puberty only; for he imagined that he had seen it two or three times in adults, and gave me the following case, where dissection put it out of doubt.

Hannah Hargrave, aged thirty, was admitted into the Middlesex hospital, on the 25th of October 1768. She was extremely languid, and so oppressed, that she could not give a very distinct account of her illness. She said, that she had been sick a week; that her chief complaint was a most excruciating pain in her head, with a vomiting of every thing she took, mixed with green stuff: she said she was costive, giddy, thirsty, had great palpitations, and could get no sleep: her heat was not greater than in health: her pulse beat seventy-eight

eight strokes in a minute; she had her menses at that time. No means that were used gave her any relief: the head-ach, vomiting, though less frequent, and watchfulness, continued. On the 4th of November she was light-headed, sighed and moaned frequently: the pupils of her eyes were greatly dilated, and I thought she could not see. On the 5th, I first observed a *strabismus*; she gathered up the bedclothes; her teeth were furred; but her tongue was not very dry; her pulse was almost like to that of a person in health.

On the 6th, she seemed every way worse, continued muttering, moaning, always without sleep, and passed her urine involuntarily. Her pulse beat eighty-eight strokes in a minute.

She died on the 7th, and her body was opened by Mr. Tickel, house-surgeon, the next day, in presence of some of the pupils and myself. Nothing very remarkable was found, except about four ounces of water in the ventricles of the brain, and a larger quantity than usual in the *theca vertebrarum*.

I have likewise seen two cases lately of the like kind to appearance. Both were women: the first about seventeen, unmarried; the second about twenty-five, married; and both apparently healthy, till they were seized with symptoms much resembling those described by Dr. Huck. Though there was no opportunity of confirming this opinion by dissection; yet, from the similarity of the symptoms, there was just ground to conclude, that this distemper is not solely confined to the age of childhood.

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OF THE

CURE OF THE SCIATICA*.

IT is always the object of my wishes, and endeavour, in the duties of my profession, to reduce the cure of diseases to all possible simplicity: and nothing affords me so much satisfaction, as when, by repeated cautious trials, a method occurs to me, of curing any distemper with some degree of certainty, ease, and expedition.

I am in hopes, that the method now offered to your consideration, will be found, by experience, to answer the end proposed, and assist practitioners in removing an obstinate painful disease with less difficulty, than by the methods hitherto employed for the purpose.

The *Morbus Ischiadicus*, or, as it is called in this country, the *Sciatica*, is a disease too well known by physicians to need any description; too painful not to require the speediest relief; and so obstinate as to resist many powerful remedies.

In the course of my business, many cases of this nature have occurred to me, and, during a considerable part of my time, whenever they occurred, gave me much uneasiness. I found the remedies recommended for the cure of this distemper often insufficient, always slow in producing a cure, and very often as painful almost as the disease itself.

It is at least amusing to ourselves, if not instructive to others, to mention by what means we become acquainted with useful hints. I was desired, many years ago, to visit a man somewhat above forty years of age, who had long been confined to his bed, from the effects of a *lumbago* imperfectly cured. The violence of the pain was abated, but he was incapable of moving, or being moved, from the place he was laid, without suffering grievous torture. The part affected was the lower part of the *lumbar* region, from side to side, across the loins. His flesh was much reduced, his appetite decayed, and a feverish

* Medical Observations and Inquiries, vol. iv. p. 69. Read August 22, 1763.

heat constantly attended him, the consequence of pain and inanition. He had been many weeks under the care of a very able physician, who had attended with much diligence, and prescribed, with judgment, very efficacious medicines. The patient was reduced to the necessity of taking opiates to procure a temporary relief. He had taken them a considerable time, and in doses rather more than moderate, though not very large, before I saw him.

Not finding any reason to suspect either an internal abscess, or a tendency to it; but that the seat of the pain was in the tendinous parts about the loins, and deep, I directed a small dose of *calomel* to be given every night.

The following was the prescription :

R Calom. levig. gr. x.

Tereb. e Chio. q. s. f. pil. x. non deaurandæ. Capiat j. omni nocte.

A laxative mixture was provided, to be taken in the morning, to procure stools, if he should be costive. The opiate was gradually omitted.

Finding a grain of *calomel per diem* to have no effect, I ordered him to take two one night, one the next, and so to proceed.

His pains rather grew less by the time these pills were taken; but not the least appearance of any effect from the *calomel* as a mercurial. I increased the dose, till he got up to six grains of *calomel* every day, three at night and three in the morning; without ever perceiving any tendency to a ptyalism, purging, remarkable micturition, or diaphoresis. The pains, however, gradually lessened; he got up every day, recovered his appetite, got strength, and, in five or six weeks time, was able to go abroad. He halted considerably, and made use of a walking-stick; but enjoyed tolerable health, and has not since been afflicted with any complaint of this nature.

Six grains of *calomel per diem*, for near a fortnight together, may seem a very large dose to be taken without producing the common effect of mercurials. It surprised me at the time; and I should by no means have proceeded to such a length, if experiment, conducted with some degree of caution, had not led me so far in this particular instance.

A gentleman of great eminence in chymistry had assured me, that he had found very good effects from *calomel* given in the manner above mentioned, with the *Chio turpentine*, in worm-cases, and all the diseases of children. Thinking that small doses of *calomel* would be as likely to remove a disease so deeply situated sooner than any other remedy, I had recourse to this medicine, and gave it in the manner above described.

On reflecting, however, on its effects, I found cause to suspect, that exhibiting *calomel* in the manner I had done, was using it in the most uncertain method. Most kinds of *turpentine*, I believe, are indigestible in the human stomach; the more solid their consistence, the more difficult they are to be dissolved

solved in the human body. Great part of the *calomel* might, therefore, be so effectually wrapped up in the *Chio turpentine*, the hardest and most indissoluble of the whole class that are used in medicine, that I apprehend a very small proportion of the *calomel* ever came into action. From this consideration, I have seldom since given mercurials made into pills with this substance, unless where I wanted to give the smallest quantity possible; but have generally ordered it to be formed into pills, with some substance that was easily dissolvable, as some conserve or confection. From the success attending this case, I determined to make trial of a similar process in the *Sciatica*, and the event has generally answered my wishes. I recollect divers cases of both sexes, and different ages, in which a process like the following has been of singular service, after various other medicines and operations, recommended for the cure of this complaint, had been used to very little purpose.

℞ *Calom. levig. gran. x.*

Conf. Ros. q. s. f. pil. x. non deaur.

Capiat j. omni nocte superbibendo haust. seq.

℞ *Aq. Alexit. simp. ℥iss.*

Alexit. spir. ℥iss.

Vin. Antimon. gut. xxx.

Tinct. Theb. gut. xxv.

Syr. simp. ℥j. m.

If the pain does not abate by the time this quantity is taken, I increase the dose of *calomel* to two grains one night, one the next, and thus proceed alternately. When the pain abates, the anodyne and antimonial are gradually lessened; perhaps omitted every other night, or wholly dropped. I have seldom met with a genuine *Sciatica* but has yielded to this process in the space of a few weeks, and has as seldom returned.

My inducement to make trial of this method at first was, that this kind of pains are deep seated in the most fleshy parts of the human body, and to which it is extremely difficult to convey the efficacy of any medicine entire, either given internally, or applied without.

That mercurials, of all the medicines we are acquainted with, most certainly pervade the inmost recesses of the muscular and tendinous parts, and remove diseases which we know have in them their residence.

That, till these could take effect, it was necessary to mitigate the pain; for all painful disorders increase in proportion to the irritation attending them. The anodyne, above directed, has other properties than that of an opiate merely. Like as in Dover's famous powder, the anodyne in this composition, when duly proportioned, restrains the antimonial from exerting its usual efficacy

cacy on the stomach and first passages, and conducts it to the remotest parts of the circulation, rendering it an useful and efficacious medicine in many painful disorders.

If the disease does not yield to the dose above mentioned, I gradually increase it till some little tenderness is perceived in the mouth; but I have seldom had occasion to proceed so far, or to subject the patient to any confinement, unless in very rigorous weather. As the violence of the pain may safely be mitigated by this kind of anodyne, which is not merely a palliative, I have always thought it better to proceed with the *calomel*, in the manner above mentioned, as an alterative, than to risk any thing for the chance only of a few days speedier recovery. Formerly I have had recourse to the bark, *guaiacum*, the *terebinthinate* spirits, and other usual medicines; but seldom to the patient's benefit, or my own satisfaction. Fontanels, blisters, caustics, likewise, have produced as little advantage. Of late I have trusted to the process above described, and have very seldom been disappointed.

Bleeding has not been mentioned, because in most of the cases I have seen, it was unnecessary. Physicians are seldom consulted on these cases in the beginning of the disease. In plethoric habits, this evacuation may be necessary as well as purging. Those who see the patients early, will be the best judges of the necessity of these evacuations.

O F T H E

USE of TAPPING early in DROPSIES *.

THERE are several efficacious remedies in the hands of physicians, which are often made use of so late in the disease, that they fall into disgrace, from being applied when nothing could save the patient from inevitable destruction. Of this kind, perhaps, are blisters applied to the head. The sick and the by-standers have consented to this application, when nothing could be of use. The patient dies, and the blister to the head bears the blame, both as an ill omen from the physician, and as a barbarous application; when, in fact, it deserves the imputation of neither. The physician, well knowing the general prejudice against the application of blisters to the head, shifts off the proposal longer than is right in his own judgment, through fear lest the terror excited by such a prescription, should do as much harm as the blister could do good. As the danger increases, this very blister is then often called for by the patient's friends, when neither this nor any thing else can avail.

With what difficulty can we persuade those who are on the verge of a consumption, and the hectic symptoms just in their infancy, to leave towns for a purer air, or seek the aid of Bristol waters on the spot, while such kind of remedies afford almost a certain cure! When the lungs are inflamed and ulcerated, and an incurable hectic, with all its wasting consequences, are far advanced; then, whether the physician thinks any benefit can be received or not, they fly to Bristol, when neither the water nor any other means can prevent their dissolution.

Perhaps the operation of tapping may have undergone the same fate. Few dropical patients can bear the name without apprehensions of terror; and indeed not without reason: for, of the many who undergo this operation, how few are surviving instances of its advantage!

I think there is reason to suspect, that tapping has incurred some part of its

* Medical Observations and Inquiries, vol. iv. p. 114. Read November 14, 1768.

disgrace, from its being delayed till it could have no other effect than procuring a very short-lived hope to the patient, at the certain expence of the small share of strength remaining.

I have endeavoured to prevail upon such patients labouring under this disease as have requested my assistance, to submit to it as early as possible, after I found that the quantity of water was such as could not be removed by medicines, without doing great violence to the constitution. There are several persons now living, whom I prevailed on early to submit to this operation. When I found the usual diuretics had no effect, and the more active purgatives did as much prejudice by weakening the whole frame, bringing on thirst, loss of appetite, debility, and fever, as they did service by the evacuation they produced; I desisted from medicine; allowed them to drink as much as thirst required; and, when the fluctuation was so evident as to render the operation safe, it was performed. In one case, one operation alone succeeded: for, by diuretics and corroborants, proper diet and suitable exercise, the urine passed the kidneys freely, and the patient recovered perfectly. This was an evident *ascites*, and came on soon after a lying-in; apparently from the power of absorption being weakened beyond a speedy recovery, and the exhalant vessels being relaxed immoderately; the balance was destroyed, and a vast quantity of water was collected in a shorter time than I ever saw. All the *viscera* seemed to be found; and none of the usual causes of dropsies from intemperance had preceded. Had we persevered with strong purgatives or diuretics much longer, the tone of the absorbent vessels would perhaps have been so far weakened, as to have rendered tapping, or any other means, ineffectual.

Another case was, in a single woman of about thirty-five years of age: the disease succeeded a tedious lingering fever, attended with great thirst; and very large quantities of thin liquors had been poured down, without discreation.

Apprehending the distemper proceeded from the diminished power of the absorbing vessels, the redundancy of fluid, the general debility of the whole frame; very few medicines, except cordials, were given, till she was full enough to be tapped. This was happily performed; but she soon filled again. The operation was repeated. The medicines ordered for her now began to take effect. The urine was increased, her strength returned, and she left the town perfectly recovered.

If we consider, that this operation is far from being one of the most painful, and that, if the fluctuation is sufficiently evident, and the belly moderately tense, it is one of the safest; it seems to me, that we have nothing to fear, either in respect to ourselves or our patients, if we recommend it as early as possible.

If I am called to a patient tending to a dropsy, the belly beginning to fill,
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the urine passing in small quantities and high-coloured, the appetite failing, and thirst increasing, with the loss of flesh in the upper parts of the body; I have recourse to such diuretics, purgatives, and corroborants intermixed, as the state of the case and the nature of its causes indicate. The preparations of squills, the neutral and alkaline salts, the *terebinthinate* balsams, afford many efficacious compositions. The purgatives are known to every one. If, by a reasonable perseverance in this course, no considerable benefit accrues; if the *viscera* do not evidently appear to be obstructed and unfit for the future purposes of life; if the complaints have not been brought on by a long habitual train of intemperance, and from which there seems little hope of reclaiming the patient; if the strength and time of life are not altogether against us; I desist from medicine, except of the cordial restorative kind; and let the disease proceed till the operation becomes safely practicable: when this is done, by the moderate use of the warmer diuretics, chalybeates and bitters, also the preparations of squills in doses below that point at which the stomach would be affected, I endeavour to prevent them from filling again.

If we recollect what happens in the cure of several incysted dropsies, we shall find the opinion here advanced confirmed. Divers of these are cured by puncture; sometimes once only; sometimes the operation is necessarily repeated. You will remember many cases, I doubt not, of the dropsies of the *testis* or *tunica vaginalis* particularly. I can recollect several within my own knowledge; some that have required but once tapping, others repeatedly, and yet at last have remained perfectly cured.

Should you, gentlemen, be of opinion, that these remarks are not ill-founded, I have no doubt but, from the share of business which passes through your hands, the public will receive such confirmations as may tend to dissipate that dread of tapping, which, I am satisfied, is one great cause of the disgrace under which it labours, and is alike injurious to our art, and detrimental to the patient.

Before I quit this subject, permit me to mention a method of scarification that has often succeeded in anasarous swellings of the legs and thighs; at least, it has so far succeeded, as to draw off large quantities of water, without either so much pain or danger as in the common way by incisions. These are always painful, and, if large, are dangerous, from the known difficulty of healing wounds in anasarous habits.

I generally order this operation to be performed with the common scarificator used in cupping, and the instrument to be placed so as to make the wounds transversely. If the skin is thick, the lancets may be set so as to make deeper, and consequently wider incisions. By this method, a large quantity of water will often drain from the legs and thighs, without risk of inflammation, or deterring the patient from a repetition, if necessary. To proceed with as

much safety as possible, I commonly order the instrument first to be applied about the middle of the calf on each side the leg, and either to one leg only, or to both, as occasion requires. The application of glasses, either to raise the skin, or promote the discharge afterwards, is unnecessary. The instrument is gently pressed upon the skin till a surface is formed sufficiently flat to admit the lancets in the scarificator to take effect equally. By making these little openings in the skin transversely, they give vent more freely to the fluid, and are longer before they unite.

Should it be asked, in what cases this application is proper; it is answered, that in all anasarctous habits, where the *serosa colluvies* gains upon us fast, and the skin is so stretched as to threaten a rupture, or inflammation and gangrene, much mischief may be prevented by these means. Likewise, where the breath is extremely affected in such habits, a temporary relief may, in this manner, often be obtained, in order to give a fair chance to remedies administered internally. Your own experience, Gentlemen, will suggest to you many other uses of this operation.

ALTHOUGH

ALTHOUGH this case of Hemiplegia, and the two subsequent papers, have been published in the Medical Observations and Inquiries, under an anonymous title, yet I have the authority of a letter, in which the Doctor adopts them as his performances. In the fourth volume of the Observations and Inquiries, in which these are included, many other of his pieces are inserted under his proper signature; but, with a diffidence which no author had less occasion to plead: that his name might not too frequently recur, he chose to suppress it in these three instances: this objection no longer subsists, and the utility of these essays sufficiently warrants me to disclose to the public, what the Doctor had previously disclosed to his friends.

In the London Bills of Mortality a considerable reform is undoubtedly wanting; the subject had engaged his attention, and he had even sketched some outlines for effecting this reformation, which his want of leisure prevented him from completing for public inspection.

Editor.

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A.

H E M I P L E G I A,

Attended with UNCOMMON CIRCUMSTANCES;

Communicated by a MEMBER of the SOCIETY*.

ON the 27th of February, 1762, M. M. in the sixty-eighth year of her age, was seized with a palsy, which entirely deprived her of the use of her right side, and of her speech. At the first attack she was insensible, and then she had all the assistance that an able physician could give her; but as soon as she recovered her senses, all his prescriptions were in vain; she persevered with obstinacy to refuse taking any medicine, or to suffer any outward application. All the time of her helpless condition, she was constantly attended by two nurses in the night, and generally by two likewise in the day-time, besides her relations, who would frequently sit by her, both to comfort and to amuse her. She lived till the 5th of October, 1767.

From a little time after she was seized with the palsy, till about five weeks before she died, she eat meat (more heartily and more greedily indeed, than in her former state of good health) and by choice, rather the high-seasoned dishes, both for dinner and supper; but drank sparingly. All this time she was never sick at her stomach, and she never sweated. Her urine was moderate in quantity; but neither its quantity nor quality could be ascertained, as it came always from her upon cloths. She had frequently most excruciating pains in the urinary passages, which were supposed to be from gravel, and she passed many small round stones like shot. She had a constant spitting, or drivelling of *saliva*. She was costive from the beginning of her illness: and this complaint increased to such a degree, that in a little time, she seldom had a stool in less than a week; more frequently it was a fortnight, sometimes three

* Medical Observations and Inquiries, vol. iv. p. 110. Read October 31, 1768.

weeks,

weeks, and sometimes four, and twice together only once in thirty days; that is, *twice in two months, while she was eating heartily all the time, and had no sensible excretion besides, except the usual quantity of urine, and the salival discharge above mentioned.* And both times, the evacuation probably would have been still later, if four or five grains of *jalap* had not been daily taken (without her knowledge) in the beer that she drank, from the time that she had been a fortnight without a stool. After this the costiveness continued, though not to such a degree, while she lived, except once, that she was taken for a short time with a violent purging, which threatened her immediate dissolution.

During the last four or five weeks of her life, her appetite to food declined gradually. In the last eleven days she swallowed neither food nor drink of any kind whatever. On the twelfth day she had been prevailed upon to try if she could take a sip of her favourite liquor, small-beer, with a little wine in it. Whether she got any down or not, in two different attempts, was uncertain; but it could not have been more than a tea-spoonful each time. On the thirteenth day before her death, she had taken one dish of chocolate, which, we may presume, was the last nourishment she took.

During these last twelve days, she was perfectly in her senses (till within a few hours of her death) and never expressed the least degree of hunger or thirst. She made rather less urine than before. Her strength sunk, or failed, in the most gradual way that could be conceived; and her breath and her discharges became so offensive before death, that though great care was taken, the room could not be kept tolerably sweet.

She was much extenuated in the course of her disease; and, at one time, it was with great difficulty that a mortification, from pressure in the region of the *os sacrum*, was prevented.

This account was drawn up by a relation of the patient, who, from his situation, could not be imposed upon with regard to any of the facts above mentioned; and it is communicated for the sake of those facts only.

O N

PAINFUL CONSTIPATION

FROM INDURATED FÆCES*.

To the Medical Society.

Gentlemen,

Permit me to plead the privilege offered in the Preface to your First Volume, of remaining, if a writer pleases, concealed.

Your secretary is informed to whom he may apply, if any of the facts are disputed. I am, &c.

I Know not of any writer who has given himself the trouble to acquaint young practitioners with a complaint that frequently occurs, is very troublesome, may easily be mistaken, and the mistake be productive of very serious consequences to the sufferer.

You who practise in the metropolis, by daily conference with one another, learn many things casually, as it were, of much importance to yourselves and to others, that make their way more slowly to the country.

It is known, that from many causes, from the use of the bark especially, it happens, such quantities of hardened *fæces* are sometimes collected in the *rectum*, as nature, without assistance, is unable to expel. Many such instances have occurred to me in the course of a moderate share of business; and I doubt not, many more to you, Gentlemen, who seem to take the lead so happily in practice, as well as in a disposition to communicate the result of your extensive experience.

I shall relate one single case particularly, as some useful hints may be collected from it, as well as from some other cases of the like tendency, sufficient, I hope, to lead the young practitioner into a method of distinguishing

* Medical Observations and Inquiries, vol. iv. p. 123. Read November 14, 1768.

this disorder from others, which, though in some appearances the same, are diametrically opposite.

Not long since I was desired to visit an elderly gentleman, labouring, as it was supposed, under an obstinate *diarrhœa*. He was in the country, under the care of a very sensible and experienced apothecary, who, from the patient's and attendants complaints and informations, was induced to believe it a *diarrhœa*, and had treated it as such, in a very proper manner.

The gentleman had very frequent motions to stool, and the motions extremely urgent. Some thin excrement was always discharged on these occasions: the pains gradually lessened for a time, and then returned with the like violence and the same effects.

Rhubarb, testacea, demulcents, anodynes, had been occasionally given; but the disorder still continued, and the pains and discharges, though rather less frequent, seemed to be more violent. From the violence of these returns, I began to suspect they proceeded from some obstruction in the *rectum*. The pains were previous to the discharge; a *tenesmus* always succeeds it. On enquiry, I found my patient was always disposed to be costive; that he had been so many days preceding this disease; that he had not passed a figured stool of a fortnight: I guessed therefore, that the discharge of thin excrement was forced by the painful throws, past the obstructing collection.

I requested the apothecary's servant, who was in waiting, to dip his finger in oil, introduce it into the *rectum*, and try to discover if my suspicions were well-founded; and if they were, to endeavour to break the hardened *scybalæ*, and bring them away, either by his finger, or a narrow spoon, the best instrument we could then find.

It proved as I had suspected, and the young man performed his part so well as to bring away a very large lump of hardened *fæces*, which could not by any other means have been discharged. Emollient clysters, and oily relaxing draughts, soon brought away the rest, and our patient was effectually relieved from that moment.

Another case, not altogether dissimilar, may be worth mentioning. I was desired to visit a gentlewoman near sixty years of age, of a constitution rather plethoric, and, to appearance, healthy, except from the effects of the present indisposition. She complained of very sharp, but intermitting pains of all the parts about the *pelvis*. She compared them to labour-pains in respect of violence, but of longer duration; just, she said, as if the womb, bladder, and all within her, were forcing outwards: every half hour almost they returned, and had so continued near a month before I was called to her.

An ingenious apothecary, conversant in midwifery, had suspected that some hardened *fæces* in the *rectum* increased the malady, if they were not the sole cause of it. He was permitted to examine; but, by introducing the finger as
high

high as possible, he could discover nothing of this kind, but found the *uterus* much enlarged and very hard, compressing the *rectum* in such a manner as to prevent any thing but what was in a very liquid state from passing, and such kind of liquid stools were discharged very frequently, so as to imitate a genuine *diarrhæa*.

The *uterus*, when examined, was exquisitely painful to the touch. The urine was discharged with much difficulty, owing, as it was supposed, to the increased bulk of the *uterus*.

Upon enquiry, I found the kind of pain was such as is above described. That the stools were always liquid, and these only forced away by pretty active purgatives, gentle ones having no effect, which never failed, at the same time, to increase these forcing pains immoderately. This had rendered the use of anodynes necessary at night, to allay the irritation produced by the purgatives.

Though from the account given me, there was much reason to apprehend the *uterus* was in a very morbid state, probably verging to a cancer, as seemed afterwards to be more evidently the case; yet that some hard *fæces* might be one cause of the present pain, seemed to me not improbable.

The apothecary, at my request, examined the *rectum* again with his finger; but found no *fæces*. He then introduced a small tallow candle, and pushed it gently past the compressed part. Upon drawing it out, he observed some excrement sticking to it. This induced him to pass it again to the obstructing place, and, by degrees, he dislodged a very large mass of hardened excrement, which fell into the *rectum*, and being there broke with the finger and the scoop, was extracted. An emollient clyster brought away the rest, and she now complained of nothing but fatigue and soreness.

Gentle laxatives now took effect, and her sufferings were greatly diminished. Those arising from the morbid *uterus*, nevertheless, continued, as I was informed afterwards.

An opinion that purgative, or even laxative medicines destroy, or, in some degree, frustrate the efficacy of the bark, has contributed not a little to produce many troublesome accidents of this kind: for, as a large quantity of bark is generally used in the cure of an ague, and as the bark is indissoluble in the stomach and bowels, it easily unites with the *fæces*, and forms with them such large, hard, compact *scybalæ*, as can by no means pass the *sphincter ani*, without exquisite pain and difficulty, and sometimes not without the aid of instruments.

When this is the case, the patient complains of excruciating forcing pains about the *anus*; but remitting. Some thin excrement is discharged, and the pain abates. A fresh spasmodic effort follows, and with the like success. It is a kind of spontaneous spasm of all the parts in, or connected immediately with

the *pelvis*, for the exclusion of this irritating substance. Should such a thin discharge, attended with pain, lead any one to suppose it a *diarrhæa*, and, in consequence of such a supposition, treat it with astringents and opiates, it is evident that greater mischief would ensue.

Should the description given by the patient, and the preceding circumstances of the case, induce one to doubt whether the disease is owing to constipation, a trial attended with no danger, and, in most cases, with little difficulty, will soon clear up the matter. If the pain remits, and returns with violence after a short remission, and the patient has either taken the bark, or been long costive, there is reason to apprehend the complaints are the consequences of constipation, and can probably be relieved by no other means so safely and speedily, as by manual operation.

But it appears, that a search with the finger only, is not in all cases sufficient: the lodgment may be above its reach. A small tallow candle may be passed, so far as to put the affair out of doubt, and should be recommended where, from concurrent evidence, such a lodgment is suspected.

S O M E R E M A R K S
ON THE
BILLS of MORTALITY in *LONDON*;

W I T H
An ACCOUNT of a late Attempt to establish an
ANNUAL BILL for this Nation*.

To the Medical Society.

December 30, 1768.

Gentlemen,

THE clerk of the parish in which I reside, having left at my house, the other day, the yearly bill of mortality for London, I perused it immediately with some attention.

If the following history and reflections relative to this subject, fall within the compass of your design, you may publish them if you please: and although they come from a nameless writer, you may be satisfied of the truth of the facts, by applying to your secretary, who will be informed from whom he received this communication.

About the year 1754, a physician in the city, who had for some time employed a part of his time in observing the state of the weather, the concomitant diseases, and taken some account of the weekly bills, applied to the Company of Parish-clerks in London, and acquainted them, that to his certain knowledge, their weekly bills were defective in many respects; that the list of diseases was a very injudicious one; that their present labours, therefore, answered very little useful purpose, either to themselves or the community: however, that it seemed practicable to form a plan that would alike conduce to

* Medical Observations and Inquiries, vol. iv. p. 214.

the advantage of their Company, and to the interest and satisfaction of the nation in general.

A memorial on this subject was delivered to the Company in form, setting forth the particular benefits hence to be expected. That in respect to medicine, the increase or decrease of certain diseases, at different times and places, would be both ascertained, not only in this city, but throughout the kingdom; from whence much benefit might be derived to the art of healing, as well as to the public.

That the increase or decrease of the people in general would be ascertained; in time likewise their numbers.

That the increase of vice or virtue might also be traced, by observing what proportion the diseases proceeding from intemperance annually bore to the rest; and likewise in what particular places this was observable.

That the firmest basis of political arithmetic might be raised on this foundation: and that a work of extreme utility, on so many accounts, could not but redound to the benefit of those who had the conduct of it.

The Company, on considering the affair, thought the proposal of so much consequence, as to apply to parliament for powers sufficient to carry this design into execution.

The basis of this plan was, that not only the parishes within the bills of mortality, but all the parishes in England, should be obliged to keep exact registers of BIRTHS, BURIALS, and MARRIAGES, instead of *christenings* and *burials* only, as the bills are at present. And that from the several parish registers, an annual register should be formed in each county, and transmitted to the capital, early enough to be incorporated into one general bill.

In order to render that part of this account which related to diseases more advantageous, some physicians of eminence met together, and attentively considered the present list of distempers, rejected all synonymous and obsolete terms, and proposed to give such an explanation of those that were retained, as might enable those whose duty it might become to make report, to do it with much more precision than it has been done hitherto.

The affair was brought into parliament, and the bill was ordered to be printed, and seemed to be in a way to pass very favourably.

Unfortunately, however, the gentleman * who undertook the conduct of this affair in the House of Commons, insisted on a clause being inserted in the bill which totally overthrew the design, and was the principal cause of its being rejected by a great majority.

One motive that was urged by those who were friends to the bill was, that it would furnish the most perfect basis yet extant for political calculations respecting insurances on lives, and other circumstances of apparent utility.

* The late Thomas Potter, Esq.

It was evident, that could the number of people be known, the foundation of such computations would be laid more speedily and certainly.

This induced the gentleman above mentioned, to insist on a clause for numbering the people of both sexes and all ages, before the act took place. Those who were not the friends of administration at that time, laid hold of this clause; and nothing but the *sin of David* was heard of, till the bill was laid aside.

All this, perhaps, you will say, is little to the purpose of medical knowledge; but indulge me a few moments longer, and should you still be of the same opinion, I shall cease to urge your admitting these remarks.

I know of nothing that would more effectually conduce to state the different degrees of healthiness or unhealthiness in the different parts of this nation so clearly, as a proper bill of mortality; nor suggest the necessity, nor perhaps the means of securing the first, or preventing the latter. The records of the seasons, in respect to heat and cold, dryness and moisture, made by ingenious men in different parts of the kingdom, compared with such annual bills, would afford many useful reflections to the faculty, much benefit to the community in general.

I have, therefore, thought it not improper to relate what steps have been taken in this affair, and by what means they were rendered ineffectual. Another season may be more propitious; and should you, gentlemen, approve the plan, your opinion, and assistance, I am persuaded, would insure success.

Perhaps it will excite you the more readily to embark in this affair, when you recollect, that our country suffers much in the esteem of foreigners by a grievous neglect in composing the present bills of mortality. If you will please to cast an eye upon the article of *consumption* in the yearly bill, you will perceive, that in the present year, no less than 4,379 out of 23,639 are said to have died of this disease. From whence foreigners conclude, that the climate is so much disposed to produce consumptions, that it may justly be called unhealthy; a character it by no means deserves.

You know that these bills are framed from the reports of common searchers appointed to view the dead bodies, in order to prevent the concealment of violence. These searchers are, for the most part, ignorant poor women, who, if they see the body emaciated, immediately enter it in their report as consumption. I need not inform you, how many chronic as well as long-continued acute diseases, in which the lungs are no otherwise affected than as suffering with all the other parts, waste the whole frame, and bring it to the same state as those who died tabid; but these ought not to be ranked under consumptions, but under the several heads to which they belong.

It was intended, among other salutary attempts, to rescue our country from these unjust imputations, and to vindicate its character from the effects of ignorance

norance and inattention. That many die of consumptions is most certain; but by no means in the proportion alledged by these erroneous accounts. Perhaps the real number of those who die of the genuine *phthisis pulmonalis*, would not amount to a third part of the sum, opposite to the article of consumptions. I have been present where the reports of some of these common searchers have been produced, and know, that persons who have died of mere old age, have been reported consumptions. Children, wasted by glandular diseases, without the least symptom of a pulmonary affection, have been placed in the same catalogue, and others yet still more remote from a genuine consumption, have been added to the list.

These remarks, I acknowledge, do not directly tend to the cure of any disease, your immediate object; yet, as your observations, I find, are in the hands of many learned men abroad, these hints may tend to correct an error relating to the history of our climate, which has to our cost been received, if I am not misinformed, by many ingenious foreigners, and propagated in their writings to our disadvantage.

I am, &c,

R E M A R K S
ON THE USE OF
BALSAMS in the Cure of CONSUMPTIONS *.

To the Medical Society in London.

Gentlemen,

SO much has already been said by different Authors on the subject of consumptions, and the history, progress, and usual methods of treatment, are so well known, that it may seem almost presumption to offer any remarks to you upon this disease. And indeed some apology may be necessary, when I acquaint you, that I have no new method of cure to propose, nothing, I fear, that will conduce more effectually to the relief of this distemper, than the remedies you are already acquainted with. My view in submitting these remarks to your consideration, and, if not disapproved by you, to the public, chiefly aims at preventing inconveniences that may arise to consumptive patients by the use of some medicines vulgarly applied to the cure of pulmonary diseases, and which, under certain circumstances, are not only unsuitable, but frequently injurious.

An idea that all balsams are healing, and that in all ulcers, not excepting those of the lungs, they are indicated, has so greatly prevailed, that to doubt of its propriety, would seem to betray a want of physical knowledge. Yet I cannot but suspect, nay, more than suspect, that this idea has been the means of precipitating too many of these unhappy invalids prematurely to their grave.

The term *balsamic*, I own, includes a vast variety of different substances. A solution of *sperma ceti*, nay, sometimes oil mixed with water by the means of a mucilage, is stiled by some a balsamic, as well as a solution of balsam of

* Medical Observations and Inquiries, vol. iv. p. 231. Read October 16, 1769.

Peru, Copaivi, olibanum, and other heating resinous bodies: but there is a vast difference between these. The former, if free from rancidity, are properly emulsions, and antacid. The latter are literally balsamics, all of which are more or less pungent and acrimonious. Let us just take a view of the principal articles of this kind in the *Materia Medica*, as they are ranged in the *Pharmacopœia*. They are chiefly the following: *Balsamum Copaiva*, --- *Peruvianum*, --- *Tolutanum*, --- *benzoinum*, --- *gummi ammoniacum*, --- *myrrha*, --- *olibanum*, --- *opobalsamum*, --- *styrax*, --- *terebinthina*. The officinal preparations are, *balsamum Locatelli*, --- *sulphuris*, --- *terebinthinæ*, --- *traumaticum*. Some others I may perhaps have overlooked, but, excepting the *guaiacum*, *mastiche*, and *balsamum guaiacinum*, I think I have seen, at one time or other, all the rest made use of, and in full doses, in the cure of consumptive diseases, where, if it was not evident, there was at least strong reason to suspect the lungs were ulcerated.

For the sensible qualities of these substances, I shall appeal to Dr. Lewis's History of the *Materia Medica*, and to the substances themselves, and from thence endeavour to point out the effects they are most likely to produce on the human body.

Balsamum Copaiva, says Dr. Lewis, has a bitterish biting taste, not very intense, but durable in the mouth; and quotes Fuller as asserting it to be manifestly warm and bitter; and that it purges when taken in a large dose, viz. two or three drachms. This medicine, however, Fuller recommends in dry deep coughs, coughing up of blood and pus.

Balsamum Peruvianum, of a very hot pungent taste: it is one of the hottest of the natural balsams.

Balsamum Tolutanum has an agreeable warm sweetish taste, very slightly pungent, and not accompanied, like that of most of the other balsams, with any nauseous relish.

Benzoin has very little taste, impressing on the palate only a slight sweetness: it imparts by digestion to water, a slight pungency.

Ammoniacum has a nauseous sweetish taste, which is followed by a bitter one.

Myrrha; a lightly pungent, and very bitter taste; nauseous on the palate.

Olibanum; a bitterish and somewhat pungent taste.

Opobalsamum; a bitter, acrid, astringent taste.

Styrax; of a mild taste, of no great heat or pungency.

Terebinthina Chia; of a warm pungent bitterish taste. --- All the turpentine are hot, stimulating corroborants or detergents. So far Dr. Lewis.

Balsamum Locatelli is composed of oil, two parts; turpentine and wax, each one part: it participates therefore of the qualities of the turpentine increased by heat. The red sanders only give it colour, and some little smell.

Balsamum sulphuris is a pungent acrimonious liquor, if made from sulphur only;

only; but when it is made either with oil of anise-seeds or turpentine, the heat and acrimony are much increased.

Balsamum traumaticum is a tincture of *benzoin*, *styrax*, *balsam of Tolu*, and *fecotorine aloes* in spirits of wine. From the nature of the ingredients and the *menstruum*, it is evidently heating.

An opinion seems to have prevailed amongst mankind universally, that these kinds of gummi-resinous substances applied externally, promoted the healing of wounds and ulcers without exception. They early found, that it was necessary, in order to heal, to defend the parts affected from the external air; that the juices of plants alone, were insufficient to form a plastic body; that unctuous applications easily melted; but that these tenacious yet pliant bodies afforded the most lasting defence. By degrees they apprehended that each balsam was endued with distinct properties. Hence they began to form numerous compositions, plasters, balsams, ointments, without end; which a more enlightened surgery has at length greatly diminished.

Remedies which appeared to assist in healing wounds externally, were soon apprehended to have similar effects internally administered, in diseases proceeding from, or attended with ulcerations, or in wounds of any internal parts: and this apprehension seems to have introduced these and many other substances, supposed to be possessed of balsamic qualities, into the train of phthical remedies, in all degrees and all conditions of the distemper. That this is the fact, I doubt not but you are, from your own observations, very fully convinced.

It will be necessary to examine with what propriety these ideas have been adopted. Let us begin with observing what effects these medicines have when applied externally; trace them cautiously in internal application; and then endeavour to judge impartially of their real virtues.

Balsamics and vulneraries are nearly allied, in our conceptions of these bodies. Substances that warm and stimulate the solids, and prevent a tendency to putrescency in the juices. A little heat, some small stypticity, something agglutinant, must all concur. And these are mostly united in the balsams; some containing more, some less, of these respective properties.

If, in an inflamed state of an ulcer, in a young and vigorous constitution, a warm stimulating gummy-resin is applied, pain, heat, inflammation will ensue, fluxion to the pained part will be great, a very considerable discharge will follow, consisting of the juices emitted from the wounded vessels, and the vessels themselves dissolved by heat and putrescence. If these are excessive, the detriment to the sick will be in proportion to the degree of the discharge and the part affected. The same medicines applied to a cold, ferous, phlegmatical habit, in an advanced age, will be just sufficient perhaps to produce such ef-

fects as would be deemed perfectly salutary; that is, bring on a proper digestion, the foundation of a perfect cure.

In properly tempering the heat and stimulating qualities of balsamic applications, and adjusting them to the age, habit, and qualities of the patient, consists no small part of the skill necessary in this part of surgery; as I believe will be allowed by the most experienced of that faculty.

Supposing that these remedies have similar effects when internally exhibited, what are physicians to expect from medicines endued with these properties in ulcerations of the lungs?

If they may be supposed to pass the stomach, and other offices of digestion, unaltered, will they not produce the like effects? Certainly they will. They will stimulate; and this, in a great degree, in proportion to their sensible qualities: for we know of very few substances that discover much activity on the organs of smell and taste, which do not quicken the pulse; and whatever quickens the pulse, occasions a quicker transit of the blood through the lungs; and consequently, the motion of this organ is more frequently reiterated.

If the medicine can be supposed to have any specific effect on the diseased part, it must be to produce the effects already enumerated. If the subject is young and vigorous, the discharge of fluids, and dissolution of the solids, will be in proportion to the activity and heat of the medicine, and the temperament of the sufferer.

I am not more averse to speculative disquisitions, which have only for their object the establishment of an opinion, than you are. But I persuade myself you will have patience with me in these researches. It requires perhaps much more abilities than I am master of, to eradicate even a trifling error once received: but this I think of some magnitude.

It seems not improbable, but that an opinion of some healing qualities resident in this class of medicines, may have been strongly impressed on the minds of many persons who practise physic, from the injudicious encomiums given of many such kind of drugs and compositions, by some of the Dispensatory writers. Fuller's commendation of the balsam of *Copaivi* in such a tendency to inflammation, as must certainly accompany a dry deep cough, or coughing up of blood and pus, must undoubtedly have made such impressions, and may serve as one instance, among many others that might be adduced, of the dangerous tendency of indiscriminate praise. I do not produce this instance of Fuller's mentioned by Dr. Lewis, as including this gentleman in the censure. Dr. Lewis produces it only as Fuller's doctrine, which most certainly deserves reprehension; as a medicine so pungent and heating cannot be supposed safe, much less beneficial, in a disease that requires a very different treatment.

From an attentive consideration of the manner in which this class of medicines

cines has probably been introduced into the cure of pulmonary diseases, it seems to me, that an opinion of their virtues and efficacy in healing external wounds and ulcers, opened a way for their admission internally for similar purposes; but how well or ill this opinion is founded, that medicines capable of heating, stimulating, quickening the pulse, are likely to abate heat, and lessen irritation, upon which the healing of all internal ulcers greatly depends, I think will appear from the preceding remarks.

And if we take a concise view of the rise and progress of the *phthisis pulmonalis*, we shall perhaps be more confirmed in our sentiments, that all medicines possessed of heating stimulating qualities, are in general improper in the treatment of it.

This disease, for the most part, takes its rise from some accidental cold occasioning a cough. This cough neglected, by its frequency and force confirms the inflammatory tendency that first seized some particular point of the lungs. These symptoms being neither attended with pain, much fever, or loss of appetite or strength at first, are still farther neglected, till by their violence, some portion of the lungs is so far affected, as to become unfit for the use of circulation; the inflamed vessels being either dissolved into pus, or forming with the juices they contain a *schirrhus*, or other immoveable obstruction.

If this obstruction is small, perhaps it remains without much increase, if proper care is taken, during the patient's life. If it is large, and a considerable portion of the lungs is affected, the disease is every moment increased, whether it be inflammation tending to suppuration, or to form a schirrhous hardness, and thereby rendering a portion of the lungs impervious: for as the same quantity of blood must necessarily pass through the lungs, now a part is obstructed, as was wont to do in time of health through the whole, it is easy to conceive, that the action and reaction of the fluids and solids must be increased more than consists with the safety of this organ; and this in proportion to the extent and situation of the part affected.

And hence in part proceed those flushings in the cheeks, that heat in the palms of the hands, or feet, or both, which are generally perceptible in consumptive persons, in the early periods of this distemper; and which accompany them throughout, only as they seem at length obliterated by more grievous sufferings.

I omit to take notice of the many other causes that produce consumptions: for when once a single point of the lungs is obstructed, or the smallest ulcer formed, the disease becomes alike formidable, the age and habit of the patient, and the degree of inflammation or ulceration being the same, whatever may be the cause.

If then, from the first beginning of this disease to its conclusion, the *momentum* of the blood in the lungs becomes greater in proportion to the obstruction,

tion, and that the effect of this increased *momentum* is an increase of the obstruction; and as the medicines above mentioned have a tendency, some more some less, according to their different degrees of activity, to increase this *momentum*, ought we not to be extremely diffident in applying them in such cases, by whatever authority they are recommended?

Perhaps it will be alledged, that Balsams, in certain stages of this disease, especially where there is a manifest ulceration, and great quantities of pus are formed, must be of use as antiseptics. I will not deny but they may be possessed of this property, as most heating aromatics and bitters seem to be. But supposing the whole of this antiseptic efficacy could be conveyed unimpaired to the part affected, through all the changes they are liable to in the course of digestion, still they would be active stimulants; and, whatever effect they might have on the juices, would stimulate the solids to more frequent and injurious contractions.

It is most probable, however, that much of this heating quality is expended before it reaches the part affected; whilst it is evident, that most, if not all the stimulating tribe of medicines, whatever effect they produce on certain parts, as the *cantbarides* on the urinary passages; yet exert a part of their active qualities on the nerves near which they pass, so as in some degree to accelerate the motion of the blood.

Should it be farther alledged, that reasoning is in vain where many facts, much authority, and general usage, are against me, I admit the full force of this allegation; and allow that many facts as strong as Fuller's may perhaps be produced. But as I well know the difficulty of ascertaining the effect of any medicine by just experiments, I cannot but doubt at least of the inferences, when my own senses and dispassionate reasoning are against them. I am not unacquainted with the influence of general prejudice, nor with the difficulties that oppose themselves to us, in endeavouring to surmount them. Early prepossessions, confirmed by general conformity of opinion, in favour of balsams, cannot soon be changed or eradicated.

All that I hope for from this essay, is, to put young practitioners upon their guard in respect to these kind of medicines in the treatment of consumptions. I think I have seen much detriment arising from them, and very seldom any benefit. I believe the practice was first adopted on mistaken principles, and followed too generally without consideration. And it seems not improbable, but the ancient practice of embalming, which is supposed to have been principally performed by the means of balsams, may have contributed not a little towards establishing a general prepossession in their favour; and that many might infer, from their efficacy in preserving dead bodies, they were endued with properties capable of preventing the corruption or decay of the living.

R E M A R K S

R E M A R K S
ON THE
CURE OF CONSUMPTIONS*.

To the Medical Society in London.

Gentlemen,

IN a former paper, I suggested some doubts I had entertained respecting the use of balsamic medicines, strictly so called, in the cure of consumptions, and offered some conjectures in regard to their first introduction into internal use, and their application to pulmonary diseases in particular. Upon the whole, I am still of opinion, that their useful efficacy in these disorders is much to be suspected, and that an indiscriminate use of medicaments of this class, has rather a tendency to increase than mitigate the symptoms attending a genuine *phthisis pulmonalis*.

Whilst I am endeavouring to excite suspicions against what appear to me the *sedentia* in this distemper, I should think myself fortunate, could the review of several years experience afford any useful hints to those whom I wish to aid, and to whom these remarks are particularly addressed, the young practitioners.

When we consider the structure of the lungs, the tenderness of their fabric, the multitude of vessels of which they consist, the importance of their use, the many accidents they are unavoidably exposed to, and, in comparison of many other parts, their insensibility to immediate lesion, we shall be much more fur-

* Medical Observations and Inquiries, vol. iv. p. 289. Read June 11, 1770.

prised there are so few persons die of consumptions, great as the number may seemingly appear †, than that so many perish by this distemper.

To enumerate all the causes that are capable of producing a *phthisis pulmonalis*, is not my intention; but to point out the necessity of attending to its commencement, in order to prevent its progress. The measles, and other inflammatory diseases of the breast, to which children, as well as others, are exposed, often lay the foundation of consumptions: so likewise will colds, the suppression of some salutary discharge, scrophulous and venereal affections, and many other causes, all which will operate more certainly and speedily in bringing the distemper to a fatal conclusion, in proportion as a certain tenderness in the fabric of the lungs, an hereditary *tubes*, and other circumstances, concur: for, to those who are acquainted with the animal œconomy, it is rather a matter of wonder how the strong and robust escape affections of the lungs, surrounded as we are with so many causes capable of producing these affections, than that persons of a certain make, and particular delicacy of constitution, are so subject to pulmonary diseases.

We cannot, I think, be too industrious in propagating the following doctrine: That the time at which a physician can be of most use in the cure of consumptions, is at their first beginning. The slightest catarrhal defluxion ought not to be neglected, if it does not go off in a few days.

The beginning of most consumptions is a cough, more or less violent. This cough is produced either by a thin saltish defluxion, irritating the membrane that lines the *trachea*, so as to bring on a general spasm of all the parts, in order to dislodge and discharge the irritating matter; or else, by an inflammation of some part of the lungs or *bronchiæ*, produced by one or other of the general causes of inflammation.

If the catarrhal cough is neglected, or is repeatedly increased by the causes that first produced it, this will be sufficient to bring on an inflammation, which, if not removed, terminates in the usual manner of inflammations; either by resolution, in which case the lungs receive but little harm; or by suppuration, in which the mischief, however small at present, does not fail to be productive of lasting and injurious consequences, proportioned to the extent of the injury, and the condition of the sufferer, in respect to predisponent causes.

If the inflammation terminates neither by resolution nor suppuration, it often leaves a schirrhous hardness, whereby this particular part of the lungs, how-

† In this city the weekly bills are supposed to exhibit a tolerably exact account of those who die of the respective diseases mentioned in that list. But I am informed, that the article of Consumptions includes generally all those who die of any lingering disease, and are much emaciated; by which the list is vastly enlarged beyond what it ought to be, to the reproach of our country; foreigners imagining that this disease is much more frequent amongst us, than it is in reality.

ever small and confined, becomes of little or no use in the œconomy of this organ; but by occasioning an obstruction of circulation and respiration in one single point, subjects the sound parts of the lungs to greater labour, as was before observed*.

From hence it is at least evident, that the utmost care should be taken at the commencement of this disease. The most trifling cough, if it continues, may either advance gradually till it ends in immediate mischief, or may leave such impressions as may subject the patient to perpetual returns: a cough therefore in children, or young persons, or in persons of a certain make at any time of life, ought speedily to be cured.

Perhaps it will be needless to suggest the means of doing this most safely: but there is one part of management necessary to be observed by those who are about children thus affected, that cannot be too strongly insisted on by the physician, and that is, the necessity of proper diet, proper likewise in respect to quantity. If ever an extreme attention to regimen is necessary, it most certainly is so to persons affected with coughs, as will perhaps be more fully mentioned; but to children it is still more so, both as they are greater sufferers by improper diet, and have less command over their own appetite and inclinations.

For if a large quantity of the best chyle adds speedily to the present stock of blood, as all must pass through the lungs, this temporary increase of quantity will add to their irritation, the quantity itself being a *stimulus*. But if the chyle thus increased has not been properly digested, either on account of the quantity or kind of food, the mischief will be greater. And this position will, I believe, be found uniformly true through every stage of pulmonary diseases, and will evince the necessity of giving very explicit and peremptory orders in relation to diet, and the duty of those who attend the sick in this distemper.

I know, Gentlemen, that you, as well as myself, often have occasion to look back at the fatal neglect, committed both by the sick themselves, as well as those who ought to have had their future health more at heart. With what ease would many of the most incurable consumptive cases have been prevented, or cured, at their first commencement? A person whose emaciated figure strikes one with horror, his forehead covered with drops of sweat, his cheeks painted with a livid crimson, his eyes sunk, all the little fat that raised them in their orbits, and every where else, being wasted; his pulse quick and tremulous, his nails bending over the ends of his fingers, and the palms of his hands as dry as they are painfully hot to the touch; his breath offensive, quick, and laborious; his cough incessant, scarce allowing him time to tell us, that some months ago he got a cold, but he knew not, perhaps, how he got it; he

* See a former paper on this subject.

neglected it for this very reason, and neglected every means of assistance, till the mischief was become incurable, and scarcely a hope left of palliation. You see multitudes of such objects daily; and see them with a mixture of anger and compassion for their neglect and their sufferings. Excuse me for trespassing in this manner on your time and your humanity. Though it is not in your power to prevent all these sacrifices to ignorance and inattention; yet, if the faculty combine in prompting their fellow-citizens to necessary care; and prompt them to suffer no slight beginnings to pass unregarded, however they may be acting against their own interest, they will have the satisfaction of contributing to the preservation of many a useful life; for, perhaps, among those who perish by consumptions, there are many who, in respect to the excellencies both of body and mind, have given indications of becoming conspicuous ornaments of humanity.

When a cough begins, if the patient is very young, let the quantity of diet, especially solids, be lessened; let the deficiency be made up with warm thin suppers; barley-water, milk and water, thin gruel, the lightest broths, such things of this kind as the age and condition of the patient admit.

If there be much heat, or any pain in the breast, bleeding will be indispensably necessary. The quantity to be taken away, and how often repeated, must be determined by the symptoms, the patient's age, habit, pulse, and other circumstances.

In respect to medicines, the most demulcent and cooling are indicated; and when the symptoms of inflammation are abated, gentle anodynes will be useful. Every thing of a heating, irritating nature, such as the balsams, should be avoided; and even the expressed oils of almonds and olives are often to be suspected, and used with caution, as they are seldom totally free from some degree of rancidity, than which scarcely any thing is more irritating and disgusting. I have known the common doses of *nitre*, the saline mixture, and other cooling salts, increase a cough by irritation; so that even these should be administered, when necessary, rather in small doses, and frequently. The common emulsion made with good fresh sweet almonds, is a very proper vehicle for the several remedies indicated in this complaint; but if the almonds are not fresh, or are intermixed with the bitter, as is too frequently the case, they are injurious.

Fresh white poppy-seeds, in the proportion of half an ounce to a pint of Bristol or pure water, make an excellent emulsion and unexceptionable; and these may be raised in any quantity both at home and in our own colonies.

If the thin copious desfluxion lessens, and the liquid grows thicker, and yet comes up without difficulty, the cough will abate, and gradually cease entirely. It must depend upon the judgment of the prescriber to know when and to what extent anodynes are to be used. I believe they are never safe at the beginning

ginning of a cough, till by proper methods the tendency to inflammation is first abated, except where the cough is altogether of the spasmodic kind, as in some hysteric cases, or when it proceeds from acrimony heretofore discharged by an issue, an ulcer, or erosions on the skin, and imprudently suppressed; or from gouty affections; in which cases anodynes are undoubtedly of use: but in coughs arising from suppressed perspiration, or an inflammatory diathesis, as in the measles and epidemic constitutions, in such cases, anodynes are seldom to be allowed, unless it be to obtain a truce from temporary violence.

The mischiefs that have proceeded from *Godfrey's cordial*, *Bateman's drops*, *Squire's elixir*, and other heating anodynes, in the hands of ignorance, are scarcely to be enumerated.

When by a proper cooling regimen, and evacuations, the inflammation accompanying the cough is abated, then small doses of anodynes joined with the medicines above mentioned, to such a quantity as to mitigate a fruitless, incessant cough, are very beneficial. If this first period has passed over without any attention paid to the disorder, the cough becomes more harsh and dry; slight lancinating pains are now and then felt, darting, as it were, through the substance of the lungs, from some central point in the cavity of the *thorax*; commonly from under one of the breasts, sometimes exactly in the middle. A forenefs is complained of, that is almost continually felt: this is augmented much by the cough, but not to such a degree as the pleuritic stitches. It is not unusual, under these circumstances, to see the thin frothy phlegm, which is discharged by coughing, streaked with blood; sometimes a small spoonful or two, or more, are coughed up at some certain time of the day. It is not often that much larger quantities are thrown up in this state of the disease, unless the patient is very plethoric, or the fabric of the lungs extremely tender, or the cough is incessant.

The same indications point out a similar process, in respect to cure. To withdraw as much nourishment as can be done, without the risk of suffering from inanition; to supply the most cooling nourishment, and the most easily digested, in moderate quantities, and the more frequently; to bleed in small quantities repeatedly; judging of this necessity not from the appearance of the blood alone, for this will often continue fizy, till more is taken away than is compatible with the patient's situation in other respects. For if we lessen the *vires vitæ* by inanition too much, a disease then takes place, which probably will increase our difficulty, that is, debility of the solids, and the consequent vitiation of the fluids. The pulse, the heat, the pain, cough, respiration, strength and age of the patient, should all be taken into consideration. Many persons live free from complaints with fizy blood. The condition therefore of the blood singly ought not to determine us; we should examine all the evidence.

It seems unnecessary to specify what I mean by light cooling nourishment: it may not however be improper to observe, that wine, or any other fermented spirituous liquors, are improper alone, and malt-liquor, however weak, seems very generally injurious; flesh-meat, or indeed animal food of any kind, seems under these circumstances improper. Spices of all kinds in any quantity, and indeed every thing possessed of much piquancy. Whey, either from goats or cows, milk, butter-milk, milk and water, light broths, and all the farinaceous preparations, are to be recommended, but still remembering to advise caution in respect to quantity. For if a larger quantity of the best-adapted nutriment is taken in at once than can be well digested, the chyle, so far from affording that bland and balmy fluid to the blood, that must qualify it for the offices of nutrition, communicates a sharpness that defeats our expectations. It matters very little, both in this and many other diseases, what quality the food is of, if the quantity likewise does not correspond to the powers of digestion. I have not the least doubt but this is likewise your opinion; and that you enforce it in your directions: but that this is the case with practitioners in general, may perhaps not be so certain.

Under such a situation as is above described, the methods pointed out seldom fail to abate the fever and pain, lower the pulse, and ease respiration; the discharge then becomes thicker, and the cough, instead of being violent and continual, just comes on when a quantity of well-digested phlegm solicits its discharge, and step by step usual health returns.

To such convalescents, one cannot but recommend the utmost discretion in respect to their conduct. A violent cold, a débauch, long confinement in populous cities, and other similar causes, will soon bring back the same symptoms, which, if frequently repeated or neglected, bring on a more formidable distemper, from which if the patient recovers, he will have much to attribute to the ability of his physician.

In the further progress of this distemper, medicines of a different class are found of advantage: the bark, elixir of vitriol, *Bristol* and other waters, a total abstinence from animal food, and other methods of treating consumptive diseases, have their uses. Should you think these remarks not unworthy of your notice, I shall endeavour to collect such further remarks as have occurred to me on this subject, and submit them to your consideration.

I am, &c.

FURTHER

FURTHER REMARKS
ON THE
TREATMENT of CONSUMPTIONS, &c*.

To the Medical Society in London.

Gentlemen,

IN the last volume of your Observations, you were pleased to admit some remarks on the use of resinous medicines, employed in the cure of pulmonary consumptions†, and which seemed, in my opinion, to be rather injurious than useful. I take the liberty to lay before you some further remarks on the treatment of this disease; rather proposing to myself the prevention of harm, than contributing much to the cure of this very dangerous malady.

It was there pretty strongly urged, and cannot well be too often repeated, that if this disease has continued till the lungs are affected to a certain degree, all hope of a cure is vain; a doubtful, and often short-lived truce, is all that art can promise.

In this paper, I mean to submit to your consideration, and, if you do not disapprove them, to that of the Public, some reflections on the more capital medicines employed in the cure of this distemper;---the bark---elixir of vitriol---repeated bleedings---vesicatories; not omitting Bristol water, and change of air and climate; exercise; with such other observations relative to this subject as have occurred to me.

With this view I shall chiefly attend to the effects I have observed: and if I have formed any opinions upon insufficient ground, I shall be glad to be set to

* Medical Observations and Inquiries, vol. v. p. 345. anno 1775.

† These Essays, though inserted in different volumes of the Medical Observations and Inquiries, are here collected together; the date of each Essay is annexed to the respective paper.

Editor.

rights; as I think there can be scarcely any thing more injurious to society, than to propagate wrong notions respecting the treatment of diseases; as they may chance to lead the less experienced to a precipice with his patient, where one of them may lose his life and the other his reputation.

Of late years the bark has been given so generally, and in cases so remote from those in which it was first used as a specific, I mean intermittents of every species, that it is not to be wondered at, that it is often confided in, as a dernier resort, in the pulmonary hectic.

The apparently regular paroxysms of an intermittent, so conspicuous in certain stages of this disease---regular cold fits, succeeded by great heat, followed by copious sweats---a cessation of every violent symptom ensuing, naturally draw the attention of the practitioner to a remedy, which, under like appearances, had afforded the most beneficial relief.

The bark has been pushed; in this stage of the distemper, in too many instances, with as much vigour as is necessary to conquer the most genuine autumnal intermittent---till both the patient and prescriber were weary of the process---the patient loathing the remedy, and the prescriber finding it ineffectual.

But this is not the worst: the bark is so far from curing the hectic arising from distempered lungs, that, according to the best of my observation, it not only takes up that time, which might probably have been better employed in the use of other medicines, but, for the most part, it aggravates the disease beyond remedy.

I have seen the bark given in almost every state of the *phthisis pulmonalis*, even in the first commencement, whilst the breast was in pain, the cough dry and harsh, the pulse quick and hard, and the heat considerable. What was the consequence? frequently an *hæmoptysis*, and all its worst attendants; ulcerated lungs, purulent spitting, colliquation, and death.

I have seen it given in most of the subsequent stages, often indeed with less appearance of injury, but at least without benefit.

There are two causes of consumptions, which often produce such a similarity of symptoms to the genuine *phthisis*, as sometimes to have led me to make use of the bark in apparent tendencies to a genuine pulmonary consumption, with advantage; and I think they may not improperly claim some attention from practitioners.

One of the causes is, the suckling of children longer than is consistent with the mother's ability. This case occurs not seldom, among the middling and lower class of females of naturally tender and delicate constitutions. Prompted by maternal fondness, or a wish to discharge a duty they think they owe to their offspring, and sometimes by narrow circumstances, they give the breast to the child till their own strength is impaired: in such a state of weakness,
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some slight cold brings on a cough; this is increased gradually, till it brings on the appearance, at length the reality, of the genuine pulmonary consumption: here the bark given early, in moderate doses, and merely as a tonic remedy, is often of excellent use. Many, I am satisfied, it has retrieved from deplorable situations; and under such circumstances a prudent trial may safely be made.

Another cause is, any weakening discharge, either from abscesses, or from the greater operations of surgery; or from a copious and constant *fluor albus*, or similar enfeebling evacuations. That the bark is, for the most part, of use in these cases, when the lungs are not inflamed, is indubitable; and if they are so affected, and not beyond a certain degree, it is also efficacious in preventing the progress of this malady.

In phthical complaints, succeeding such situations, a prudent trial of the bark seems necessary. Small doses of the decoction, given either alone, or joined with the saline mixture, or such other additions as the prescriber may think proper, may be given: but if the breath becomes more tight and oppressed, the cough dry, the pulse more quick and hard, and especially if slight transitory pains or stitches about the *thorax* are more frequently complained of, a perseverance in the use of the bark will increase the disease: and if such should be the appearances, in the progress of consumptions, or arising from what cause soever, if the bark is accompanied with such effects, it will be prudent to desist from its use.

If, on the other hand, no pain, tightness, or oppression, is perceived, and a manifest abatement of the symptoms appears, it will be right to proceed. But the exhibiting of this medicine requires a dispassionate observer; and whoever wishes to make trial of it, ought neither to give it in the early inflammatory state of this distemper; nor continue its use in any subsequent part of its progress, if it produces the effects above mentioned.

By its tonic virtues it will often enable nature to conquer many difficulties. I have seen it of use in promoting expectoration, where strength was only wanting to perform it, toward the end of peripneumonic fevers; but that it stops this discharge, changes slight wandering pains into fixed ones, and increases them with all their consequences, I have been a witness too often, to admit of the least doubt, in a variety of cases.

It would be trespassing too much on your patience, to descend more minutely into the use and abuse of this medicine, or the mode of exhibiting it; suffice it to say, that for the most part much harm or great good may be expected from it, and consequently too close an attention cannot well be paid to its operations by the prescriber.

THE elixir of vitriol is often exhibited in consumptive cases, and may claim a consideration in this place, and the more so as it seems to be frequently used with not less impropriety than the bark.

Perhaps a single fact has contributed to raise the credit of this medicine in phthical cases, without much regard to the state of the disease, to a very injurious extent. It is said that a person took, by mistake, in a very advanced state of a consumption, at one dose, half an ounce of the elixir of vitriol, instead of twenty-five drops, the dose ordered by a justly-eminent physician (Sir Edward Hulse), and that the patient not only survived the enormous dose, but was cured by it.

Medicines, it is well known, that are highly proper in one stage of a disease, are equally detrimental in another. I have seen the elixir of vitriol, in a competent dose, given in the inflammatory part of this distemper, while the pulse was quick and hard, the breathing difficult, the cough frequent, with much heat, and very little expectoration; the effect was, an increase of every symptom, a spitting of blood, and all its consequences.

In the latter stages of this disease, when a general tendency to putrefaction takes place, it cools and checks this tendency; it restrains the colliquative sweats, and, if the lungs are not injured past repair, it is a very useful auxiliary.

The composition, however, of this medicine, may, perhaps, be found somewhat exceptionable for the purposes intended; the mineral acid combined with spices, may seem to be the least eligible. It is true, that aromatics are thought to possess an antiseptic virtue; but where the putrescence proceeds from matter continually mixed with the blood from broken vessels, every thing irritating seems to be forbidden. Perhaps the *spiritus vitrioli*, in the tincture of roses, or in any other proper vehicle, may be the most suitable method of exhibiting the mineral acid in such diseases.

Probably, there are very few medicines which do not undergo a considerable change in the stomach and offices of digestion; so that neither the supposed contractile tonic powers of the bark, nor the antiseptic acid of the elixir, penetrates those recesses which are intended by the prescriber to receive their efficacy. I suspect that much good or harm is done by these medicines in the present case, by affecting the irritable parts of the stomach and first passages; and by this means I apprehend the bark oftener contributes to produce the symptoms we have complained of, than by its action on the lungs, the seat of the disease. If we increase for a time the tonic force of the heart, and consequently the greater flow of blood through the lungs, we are increasing the malady for which we prescribe it, let the manner of effecting this be what it may.

The action of allum, when a little of it is dissolved in the mouth, may perhaps lead to explain this matter. It soon occasions a kind of thrill through the whole habit; by which it may perhaps contribute to suppress hemorrhages, to cure obstinate tertians, and produce other salutary effects, by acting upon the solids only; and the mineral acid in the elixir may, in like manner, so affect the organs of taste, and the nerves of the first passages, as probably to operate as powerfully in suppressing immoderate evacuations, by this means, as by any other we can conceive.

When, therefore, the vessels act with sufficient force, and are replete with juices; and when these ought to be prudently reduced, in order to give all possible ease to the lungs, and conciliate a repose to them, as much as is consistent with their offices; it seems highly improper to give medicines which, let their *modus operandi* be what it may, are known to possess a power of invigorating, and are generally made use of in all cases for that purpose. And as there are many situations in the progress of Consumptions, in which medicines producing such effects, cannot but be injurious; it will be always necessary to regard these situations with all possible attention.

Of the use of Bristol-water in the cure of this distemper, so much has been said and written, and such are the diversity of sentiments concerning its efficacy, that it may seem to border upon rashness to hazard an opinion concerning it. I shall suggest, however, the result of my own observations, and submit most willingly to better information.

I have seen many persons recover from pulmonary diseases after drinking the Bristol-water, whose cure seemed to be doubtful from any other process; this circumstance, added to its general reputation in phthical cases, has been a sufficient inducement to me to recommend a trial of this water in the early stages of phthical complaints.

And here I would wish again to inculcate this remark, that it is before the approaches to a confirmed phthisis, that patients ought to repair to Bristol; otherwise a journey thither will be, not only without benefit, but will probably be detrimental.

Those who can prevail upon their patients to go thither before the disease has affected the lungs, beyond a possibility of assistance from this or any other remedy, have often the satisfaction of seeing their patients return in good health; whilst those who delay the use of these waters to the last extremity, too often fall sacrifices to their own irresolution, and leave an impression on the minds of others injurious to the water.

It may be said, that the journey, a better air, change of situation, and of objects, have contributed to the patient's recovery: be it so; these circumstances are all of them conducive to health in every chronic disorder. Perhaps, in none more so than in that which is the subject of these remarks. But why

should it be supposed that the Bristol-water has no share in the recovery? Supposing the water to be void of any great efficacy, is it of no consequence to phthical patients, to be obliged to be out of their rooms early in a morning, in the cool, fresh air? Are repeated draughts of a light tepid water, of no use in washing off impurities, allaying heats by mere dilution, and supplying the waste of juices exhausted by copious perspiration? Hope itself is of vast moment in the cure of many diseases; and it is perhaps not inconsistent with the duty we owe to our patients to promote it, whilst we ourselves retain a hope of their recovery.

But it seems to me that the water drank fresh at the pump, actually contains principles conducive to the recovery of patients affected with phthical complaints. What these principles are, it may be difficult to define. The water seems to possess a slight calcareous stypticity, and perhaps the air it contains may also have an antiseptic quality. In this place it may be enough to say, that I think the Bristol-water an efficacious medicine, and that I have often found it of signal benefit to consumptive patients.

Were the annals of the Hot Wells consulted, it would appear, that those records are against me. But whence does this arise? From two causes; first, from the patients themselves, who, in these disorders, being seldom apprehensive of any danger, will not listen to a prescription which either thwarts their inclinations, or seems inconvenient. Secondly, from the physician too easily complying with these hesitations, and not urging the necessity of such a journey, at a time when it might be advantageous. As the disease advances towards its last stages, then, perhaps, alarmed by their own fears, or the intreaties of their friends, they consent to undertake a journey, which wastes the small remains of strength they have, and brings to the Wells additional proofs of their inability to remove distempers totally incurable. Hence it is, that the opinion of the faculty is so much divided, in respect to the use of these waters.

Change of air is of much consequence in all chronic diseases of the lungs, sometimes even from good to bad. It is not seldom that we see asthmatic persons breathe more freely in the dampest confined parts of this metropolis, than in the country; at least I have met with many such instances. In consumptive cases, however, the air of all large cities is found by experience to be particularly injurious. Whence this arises, is in this place unnecessary to explain; the fact is indisputable. When the physician advises his patient to a change of air, to point out the most proper change becomes an important object.

In the neighbourhood of most great towns in England, as well as London, there are places which have acquired a reputation amongst the inhabitants for the peculiar healthiness of their situation. I will suppose these situations are well chosen; that the soil is dry; no stagnant waters in the neighbourhood; properly

properly ventilated, yet not exposed to the keen north-east winds; where it will be easy to find sheltered walks, rides, and every invitation to be abroad in fit weather, without hazard from wet and cold. Such, I believe, from the few places I know of this kind, are those selected for the retreat of consumptive patients, in the vicinage of large towns and cities. And here it may not be improper to take a general view of such as are recommended for the like purpose, in the neighbourhood of London.

The town is surrounded, almost, by a ridge of eminences, inclosing, besides the city, a low plain to the westward, of considerable extent; on the north, Highgate, Hampstead, and Kensington Gravel-pits; on the south-east, Blackheath, Clapham, and Putney. The summits of these may be called, comparatively, high ground, and are very much exposed to the sharp north-east and easterly winds.

To direct our patients to any of these places, early in the spring, whilst those winds are for the most part as stationary as the trade-winds, seems to be exposing them too much to an air that is very unfriendly to such complaints.

The vales, especially to the south-east and west of London, as Camberwell, Peckham, the lower parts of Clapham, the drier parts of Lambeth and Battersea, Fulham, Chelsea, Brumpton, and Kensington, and other sheltered dry places about the town, would in the spring undoubtedly be the most proper.

As the more temperate season advances, higher situations may be allowed; and it would seem as improper to send a consumptive patient in summer to the low marshy grounds on the banks of the Thames, amongst the gardeners grounds at Battersea, or at Fulham, abounding with the most putrid exhalations of manure and corrupting vegetables; as it would be to order them in winter to the top of Highgate or Hampstead-hill, or the bleaker air of Blackheath. Islington, the general refuge of the city, would be less exceptionable, was it not quite open to the keenest north-east winds in the spring; and in summer to the smoke of the city, driven upon it by the southerly winds.

Nor is it a matter perfectly indifferent whether we send our patients to the villages at the east or west end of this metropolis, the south or the north. The town itself is covered almost continually with an atmosphere of smoke, embodied with other exhalations, so as to form a cloud more or less dense, which is visible at a great distance.

This vast body of smoke is seen to extend for several miles beyond the limits of the city and its suburbs, and is driven by the winds that prevail in the several seasons, according to their direction. In the summer season, for instance, whilst the southerly winds prevail, this dense body is driven to the north and north-east parts of the environs, and covers the herbage, the trees, and every thing, both living and dead, with black penetrating foot. In the winter and spring, while the northerly winds prevail, the opposite villages on the south-west and west side of London receive this thick atmosphere; but with

this most remarkable difference, the winter winds passing through this warmed atmosphere, lose no small part of their rigorous effects; they are softened by it, and are proportionably less injurious to animals, and even to plants; for vegetation is much earlier in general to the south and south-west of London, than on the opposite extremities.

I have seen the double-blossomed almond-tree in bloom at Chelsea, sooner by twelve days at least than any where to the north or eastward of the town in similar situations. It seems therefore necessary to consider the season and situation, before we fix the abode of consumptive patients: to whom it is not merely sufficient to advise them to go into the country; they must be assisted also to determine upon a proper place, and proper conduct whilst they are there. They must have had but little experience, who are not perfectly satisfied, how little ought to be left to the discretion of the sick, in most diseases, to the consumptive especially, in respect to their conduct. I have known divers instances of persons who have gone into the country, in consequence of their physicians advice in such cases, and have had so little discretion, as to sleep with the windows of their chambers purposely left open, for the benefit of the air, in the most inclement part of the spring. The consequence was, that in a few nights the malady was increased beyond the power of art to relieve it. A physician, therefore, must descend to the minutest particulars in his directions.

If an attention to circumstances like these is necessary, to enable us to determine upon the choice of a proper residence in our own neighbourhood; how much greater must be our difficulty, when we propose to them a migration to the continent of Europe!

But before I enter upon this subject, it may not be improper to suggest some hints, relative to the different parts of our own country.

Bristol will naturally claim our attention, in the first instance, when change of air is recommended, as in the neighbourhood of that place there are two great advantages, the water, and a good air.

But if, from any particular dislike, or other more substantial reason, this is not complied with, perhaps a journey would be much more advantageous than a fixed residence in any spot, however healthy. I shall only add, that a journey is always preferable to an equal number of miles rode over in one and the same tract of country.

In the spring, this journey should be to the southward; to the western counties, or the sea-coasts:---and in the summer, to the northward, or to Wales;---the cooler parts of Great Britain:---Buxton or Matlock, or where any similar water is to be met with, seems adviseable. To meet the advancing spring, to return from the approaching winter, and by these means to avoid the severity of cold, so injurious to tender breasts, is the evident rule of conduct in such cases.

cases. If it requires some consideration, a knowledge of places in detail in this country, nay, even in the environs of London, to determine with propriety on the choice of places for the retreat of invalids; what must be our difficulty, when called upon to fix the route and residence of a consumptive patient, who seeks an asylum on the continent!

And here I cannot but lament the want of an institution, which, at no great national expence, might be attended with vast national advantages. Was a physician, or some medical person, to be placed in the suite of every British ambassador, envoy, or resident, we should soon be informed, and with some degree of certainty, of the proper places to which we might send our patients with the greatest prospect of success. Neither the partial opinion of the patients who have resided at different places, nor the transient visits of the most observing travellers, nor even the observations of ingenious sensible physicians themselves, without a longer residence in the place than falls to the lot of most of them, can enable us to judge with accuracy of their comparative advantages.

The south of France, Italy, Portugal, (I mention them in the order they are usually proposed to us) are the places of general resort.

Wherever the winter is shortest, the least severe, and the least changeable, every thing else being alike, that is the most adviseable. To which may be added likewise, the place of the most easy access. Thus, for instance, Portugal, by some, would be strongly objected to, on account of the sea-voyage; whilst others, perhaps, would chuse it for the sake of this easy conveyance. But if there be just reason to give one place in the neighbourhood of London, and within the compass of a very few miles, the preference to another, the difficulty of giving advice in this case, with the precision we could wish, is too apparent; and it must remain so, till further observations enable us to form a better judgment on this subject.

Of all the places we are acquainted with, perhaps the island of Madeira enjoys the most equal temperature; but the voyage, and other circumstances attending it, afford very formidable objections.

Nice has of late been the general retreat of the English consumptive patients. Some places in the neighbourhood of Marseilles are also well spoken of. The neighbourhood of Naples in Italy is also much commended; and in Portugal, the vicinage of Lisbon, and Cintra, a pleasant spot, not far from that capital. In all these places regard should be had to situation; that it may be dry, near no stagnant water, not environed with thick woods; where the water is good, and the air free, but not stormy and impetuous.

To those who object to the continent, a trial of the western counties of England may be properly recommended: should it not prove salutary, the passage by sea to Lisbon from thence is, for the most part, both safe and short.

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Even sea-sickness is often beneficial to the consumptive, as well as the sea-air. Impaired digestion, and, not seldom, a redundancy of bile, attend these cases; and perhaps repeated mild emetics, sufficient to cleanse the first passages, would often be of use.

One great misfortune attending these migrations, whether from London or other great cities, into the neighbouring country, or to Bristol and other places in this kingdom, or to the continent, is, that, for the most part, they are undertaken too late, both in respect to the progress of the disease, and the season.

Instead of removing at a time when a change of air and its consequences might prevent the most serious evils, they are in haste to quit their country, when perhaps neither this can be beneficial, nor the season for a journey a proper one.

It seems too often to be the fate of consumptive patients, to do that last, which they ought to have done first; and by this preposterous conduct, to shorten their own lives, and afflict all who have any regard for them. It happens not seldom, that when their physicians and their friends have in vain urged their departure at the proper season, they have resolved to set out on the most fatiguing journies in the depth of winter; by which they are exposed to every kind of inconveniency and hardship: if they escape with life, they aggravate their disease, and too frequently die, in the journey, martyrs to their own indiscretion.

The benefit of exercise in this distemper, has been strongly urged by many writers. As it has been treated of so pertinently by Doctor Dickson, one of your colleagues, I shall say little more on the subject. It is however evident, that this great auxiliary may be abused, and that consumptive patients may use it improperly. They ride out when they ought not, and increase their disease through indiscretion. Moderate journies, in temperate seasons, and as much as may be on horseback, are of excellent use in consumptive cases, observing, at the same time, exact temperance, both in respect to diet and liquors. To ride out early in the spring, in very sharp, or in damp, cold, and foggy weather, and at unseasonable hours, as, early in the morning, or late at night, is most certainly prejudicial.

Repeated bleedings, in small quantities, are considered in these cases as highly advantageous. They are so; and yet it is possible to carry this point too far: a constitution apparently abounding with blood---the blood when emitted extremely fizy---much pain in the breast---and an abatement of every symptom ensuing, are just motives to proceed. In such cases bleeding is undoubtedly proper, and to be repeated so long as the like effects ensue, and health is restored.

But in very delicate constitutions, and where the pulse may be quick, with
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some degree of fulness, and the blood last drawn considerably fizy, it may not be of the like advantage.

I do not think the appearance of the blood, though it may seem to be much inflamed, is alone a sufficient reason for bleeding. All other evidence should be called in, to assist us in determining upon it; the patient's age, strength, habit, usual evacuations, and state of the disease. I mean only to suggest care; not to dissuade from the operation: bleeding carried to excess, even in small quantities, is capable of producing various ill consequences.

It may not be improper in this place, perhaps, to take notice of a circumstance which often happens in consumptive cases, and which as often claims the anxious attention of some of their friends.

It is well known that young delicate females, from the age of fifteen or sixteen, and upwards, are often subject to this distemper. When it has advanced considerably, the *menfes*, if they have made their appearance, most generally cease. This alarms their female friends, and they call upon the physician to use his utmost endeavours to assist in this point, believing this cessation to be the cause of the complaint. Induced by these solicitations, medicines have sometimes been administered, that, without obtaining this end, have tended to aggravate the distemper. This deficiency is often of no real disadvantage in these cases: in many it would be injurious, by lessening the strength, which is already insufficient for the purposes of life. Even small bleedings, at the regular periods, have often done more harm than good. A sudden suppression may require bleeding; but when the evacuation fails through want of strength and poverty of blood, it increases the disease.

Drains are also deemed to be of great use in the cure of disorders of the breast. Issues, setons, blisters, both temporary, and, as they are styled, for want of a more just epithet, perpetual, are strenuously recommended. I confess I have but little experience to allege, either for or against these kinds of applications: whilst I pay great deference, not only to the experience of my brethren of the faculty, but even to their opinions, they will not wish me to give up my own implicitly.

It gives me some degree of firmness in prosecuting any measure, whilst I can perceive some relation between the cause and the effect. When I discover that a phthisical patient is descended from parents who have been subject to cutaneous or scrophulous diseases, or that they have had the like themselves; that some issue has been suddenly stopped; some eruption has disappeared; and that the breast was soon after attacked; it seems immediately necessary to substitute an artificial drain, and, perhaps, as near to the part that was the seat of these disorders, as conveniency will permit. I believe it happens not seldom, that very dangerous attacks upon the breast are made by the retrocession of such impurities; and that in such cases these auxiliaries ought especially to be recommended.

commended. But as consumptive complaints exist in many constitutions, in which it does not appear that they proceed from, or are increased by, any such retrocessions; in such cases to prescribe issues or blisters, seems to be inflicting a certain pain, or perhaps a grievous inconveniency, to obtain a very uncertain advantage.

In my former paper I omitted to take notice of one medicine, which I have seen made use of too frequently in the treatment of this distemper; the oxymel of squills. There is scarce a circumstance in the whole course of this disease, in which one of the most powerful expectorants can be of use; our utmost endeavours ought to be exerted, to cool, to abate inflammation, and to remove every cause of irritation to the lungs. Under such circumstances, to give a medicine the most irritating of all others, seems highly improper.

Hitherto no mention has been made of the use and abuse of a milk diet in this distemper. It may, however, be remarked, that there are constitutions in which this most excellent nutriment seems to disagree; a proneness to generate bile, or too strong a tendency to acescency from weak organs of digestion, both require the physician's attention. Whey, either from cows or goats milk, would probably agree best with the former; and lime-water, added to the milk, would counteract acidity.

There is one usual addition made to milk, which I think should either be totally proscribed, or the most express directions given concerning it: I mean the common addition of rum or brandy to asses or cows milk. These have done more mischief to consumptive patients, than any but physicians can conceive. These additions are mostly committed to the management of servants, who, for the most part, think every thing of this nature cordial; an idea they annex to growing strong; and therefore too often give liberal doses. Ardent spirits not only heat, but coagulate milk, added beyond a certain quantity; by which means the milk disagrees, and the spirit augments the disease.

To enter minutely into the various other circumstances relative to this disease, would be encroaching too much on your plan: permit me, however, to add, that to prevail upon the subjects of it, early to abstain from all animal food, and all spirituous and fermented liquors; to subsist entirely on milk, fruit, vegetables, and things prepared from them; to quit the air of populous towns and large cities; to shun all occasions of anxiety, as well as fatiguing dissipation; to be regular in their hours, rising early, using moderately such exercise as is suited to their strength, and changing the air as far and as often as their convenience will permit; is to render them the most essential services in our power. Medicines will then more efficaciously contribute to abate the fever, mitigate the cough, and restore that strength and vigour which has been wasted by disease, and their own inattention.

Plate III



WINTERANA *Aromatica*.

In *Loftus* *Sculp.*

7

1871



WINTERANA *Aromatica*.

In Loebe Sculp.

S O M E A C C O U N T
 O F T H E
 CORTEX WINTERANUS, or MAGELLANICUS,
 By JOHN FOTHERGILL, M.D. F.R.S.
 WITH
 A BOTANICAL DESCRIPTION by Dr. SOLANDER, F.R.S.
 AND
 SOME EXPERIMENTS by M. MORRIS, M.D. F.R.S.*

To the Medical Society in London.

Gentlemen,

THOUGH the improvement of the art of healing is your immediate object, yet I do not perceive, from the plan of your institution, that you propose altogether to exclude such parts of natural history as relate to the *Materia Medica*, and which may tend to explain what has hitherto been obscure, and thereby created confusion. Presuming therefore that the following account of an article well known by name, and by this chiefly, may be conformable to your intentions, I submit it to your consideration without any further apology.

When the Dolphin, Captain Wallis, returned from the South Seas in 1768, the officers brought with them a considerable quantity of the genuine bark, called Winter's Bark. I call it the genuine bark, to distinguish it from the

* Medical Observations and Inquiries, vol. v. p. 41. Read November 22, 1773.

Canella Alba, which has long usurped the name of Winter's Bark, though it is very unlike in its appearance and sensible qualities, the produce of a different tree, and which is brought from a very different part of the globe.

Captain Wallis, soon after his return, gave a small branch of the tree to his friend, Captain Middleton, who was so obliging as to make me a present of it. Some of the bark I had received before from an officer of the *Dolphin*. These circumstances induced me to wish some such account of this bark might be laid before the public, as is here proposed to you, that the true *Cortex Winteranus* of the Magellanic Streights might for the future be clearly distinguished from the *Canella Alba*, the produce of Jamaica and some other West-India islands.

The specimen I had received was so far perfect, that it enabled the late very eminent draughtsman G. D. Ehret to make an elegant drawing of it, with a tolerably exact description of its botanical characters.

But as I wished to lay before you the clearest account I could collect of this subject, I prevailed upon Dr. Solander to examine the specimen, description, and the drawing I had procured, and to favour me with such a history and description of it as might enable botanists to place the tree in its proper rank. At the same time I requested Dr. Morris to lend his assistance in a chymical analysis of this substance.

The following is the Botanical History and Description of the *Winterana Aromatica* by Dr. Solander:

The tree which produces the Winter's Bark was utterly unknown to the Europeans till the return of Captain John Winter, who, in the year 1577, sailed with Sir Francis Drake, as commander of a ship called the *Elizabeth*, destined for the South Seas; but immediately after they had got through the Streights of Magellan, Captain Winter, on the 8th of October 1578, was obliged by stress of weather to part company, and to go back again into the Streights, from whence he returned into England in June 1579, and brought with him several pieces of this aromatic bark; which *Clusius*, in his *Exot.* p. 75, calls after him *Cortex Winteranus*, or Winter's Bark.

Several authors have mentioned it since in their botanical works; but all they have said has been copied from *Clusius*, e. g. *Dalechamp Hist.* p. 1818. *Parkinson Theatr.* p. 1652. *Baubin Pin.* 461. *Jonston Dendr.* p. 232.

No more was heard of this bark * till the Dutch fleet under Admiral Van
Nort

* In the account of Amada's and Barlow's discovery of Virginia, 1584, it is said that they found there "Black Cinnamon, of which Mr. Winter brought some from the Streights of Magellan;" See *Hackluyt Voy.* vol. iii. p. 246; which is the bark of a very different tree. *Pomet*, in his *Mat. Med.* p. 130, imagined our Winter's Bark to be the same with the *Canella Cinnamomea*;
Brown

Nort returned from the Streights of Magellan, in the year 1600; the author of the account of their voyage calls this tree "Lauro similis arbor licet procerior, cortice piperis modo acri et mordenti." *De Bry. Ind. Occid. vol. ix. p. 18.*

Afterwards all the navigators who passed through the Streights of Magellan took notice of the tree, on account of the usefulness of its bark; but none furnished any description that could make it botanically known, before Mr. George Handasyd came from the Streights of Magellan, 1691, and brought with him some dried specimens, which he gave to Sir Hans Sloane, and are now preserved in the British Museum, Hort. Sicc. 8. fo. 100. 130. 148. 332. fo. 46. From these specimens, and the account Mr. Handasyd gave of this tree, Sir Hans Sloane drew up a history, and gave a figure in the Philosophical Transactions, 1693, N^o 204, p. 922, t. 1. "Periclymenum rectum, foliis laurinis, cortice acri aromatico."

Still the systematical botanists could not give it a place in their catalogues, being unacquainted with its flowers and fruit.

The following description and annexed figures, which are taken from the specimens brought by Captain Wallis from the Streights of Magellan, and the observations made by us*, during our stay in Terra del Fuego, in the Streights le Maire, I hope will satisfy the curious, and enable botanists to refer it to the proper classes of their systems. It seems as if the trees in the Streights of Magellan, near the sea-coast, were stunted, perhaps from the high winds, and have smaller leaves than those upon Terra del Fuego, where again the flowers were not so much expanded as in the Streights of Magellan. This last difference may be occasioned by the season, as the flowers on Terra del Fuego were seen in the month of January, and in the Streights of Magellan in the month of March.

The *Winter's-Bark tree*, *Winterana Aromatica*, is one of the largest forest-trees upon Terra del Fuego; it often rises to the height of fifty feet. Its outward bark is on the trunk grey, and very little wrinkled, and on the branches quite smooth and green.

The *branches* do not spread horizontally, but bend upwards, and form an elegant head of an oval shape.

The leaves come out, without order, of an oval elliptic shape, quite entire, obtuse, flat, smooth, shining, of a thick, leathery substance, evergreen, on the

Brown Hist. Jam. p. 275, fo. 3; Catesby Carol. vol. ii. p. 50, 150; which grows in the West-Indies, between the tropics, and is called by the druggists Canella Alba. This error has been followed by most of the modern writers, and the two trees proposed under the same name, viz. Winterania Canella. Linn. Sp. Pl. 638.

* Joseph Banks, Esq; and Dr. Solander.

upper side of a lively deep green colour, and of a pale blueish colour underneath, without any nerves, and their veins scarcely visible; they are somewhat narrower near the footstalks, and there their margins are bent downwards.

In general, the leaves are from three to four inches long, and between one and two broad; they have very short *footstalks*, seldom half an inch long, which are smooth, concave on the upper side, and convex underneath. From the scars of the old footstalks the branches are often tuberculated.

The peduncles, or footstalks for the flowers, come out of the *axillæ foliorum*, near the extremity of the branches; they are flat, of a pale colour, twice or three times shorter than the leaves; now and then they support only one flower, but are oftener near the top divided into three short branches, each with one flower.

The *bractææ* are oblong, pointed, concave, entire, thick, whitish, and situated one at the basis of each peduncle.

Calix, or *flower-cup*, it has none; but in its place the flower is surrounded with a *spathaceous* gem, of a thick, leathery substance, green, but reddish on the side which has faced the sun: before this gem bursts, it is of a round form, and its size is that of a small pea. It bursts commonly so that one side is higher than the other, and the segments are pointed.

The *corolla* consists always of seven petals, which are oval, obtuse, concave, erect, white, have small veins, and are of an unequal size, the largest scarcely four lines long; they very soon fade, and drop off almost as soon as the gem bursts.

The filaments are from fifteen to thirty, and are placed on the flat end side of the receptacle; they are much shorter than the petals, and gradually decrease in length towards the sides.

The *antheræ* are large, oval, longitudinally divided into two, or as if each was made up of two oblong *antheras*.

The germina are from three to six, placed above the receptacle, turbinate, or of the shape of an inverted fig, flat on the inside, and somewhat higher than the stamina; they have no styles, but terminate in a stigma, which is divided into two or three small lobes.

The fruit I have never seen in its perfect ripe state, but can conclude from the unripe ones, which I saw in abundance, that each germen becomes a separate seed-vessel, of a thick, fleshy substance, and unilocular: in each I could plainly discern the rudiments of three, four, or five seeds.

EXPLANATION

EXPLANATION OF THE FIGURES.

Obs. All but Fig. 1. are magnified.

- Fig. 1. The spathaceous gem, after it is burst open.
2. The same.
3. The same (*a*) with the corolla (*b*) remaining within it.
4. One of the petals spread out.
5. The stamina (*a*) and the pistilla (*b*) after the gem and the corolla are taken away.
6. The outside of an anthera (*a*) with its filament (*b*).
7. The inside of the same.
8. The germina (*a*) situated on the center of the receptacle, after the stamina have been removed; the lobated stigma (*b*).
9. The convex, or outermost side of a germen (*a*) with its stigma (*b*).
10. The inside of the same.
11. A germen cut open longitudinally, so as to shew the rudiments of the seeds.
12. A germen cut through transversely.

To this very accurate history and systematical description by Dr. Solander, I take the liberty to subjoin an extract of a letter from Captain Wallis, relative to this subject, as it contains some particulars not unworthy of being preserved in this account.

“ I met (says Captain Wallis) with the Winter's Bark at Port Famine, in the Streights of Magellan, in lat. 53. 30. south, and 70. 00. west longitude from London. The country is as mountainous as the Alps, and of course the tops of them ever covered with snow.

“ The first trees we met with was on Christmas-day, 1766, which is midsummer in that country. The tree had no blossom, nor appearance of any at that time. We continued at this place about a fortnight, to wood and water, during which time the surgeon, with the assistance of the ailing people, gathered a pretty large quantity of the bark.

“ The trees were of various sizes, according to the soil they grew upon, and their situation. Those near the sea, and in rocky ground, were scrubby, the bark sticking close to the wood, and had a dirty look; those on plain ground and sheltered were straight and tall, rising to thirty or forty feet, and as thick

as a middle-sized man. The bark smooth, and somewhat resembling the horse-chestnut. The trees are exceedingly beautiful; and there were abundance of young ones growing under them, from an inch to ten feet high. I put a great number of these small ones into boxes of earth, and sent them by a store-ship to Falkland's Islands, where I heard they were planted, but did not live, owing I believe to want of care.

"The leaves of this tree are like those of laurel; its wood is white, light, and neither fit for burning or any other use. The wood is insipid; the taste is only in the bark and leaves.

"At every place we touched at from Port Famine till we had reached the western end of the Straights, a course of about one hundred and twenty leagues, we met with the tree that produced this bark. The weather is much more severe in this climate than in England, where, in my opinion, they would thrive very well. We arrived in March at a part of the Straights called Upright Bay, where we were detained a month. The trees here were very scrubby, but we found them in blossom, as I suppose they were now also at the easternmost part of the Straights, though we had much snow and hard frosts. The flowers were dropped from many of the trees, and the buds or berries were ripening. At that time they were not larger than a pea: I brought many of them home, and gave them to several of my acquaintance, who sowed them; but I never heard that any of them came up."

Thus far Captain Wallis.

The bark of the Winterania, or Winter's Cinnamon, brought over by the Dolphin, in respect to figure, exactly resembles that which was delineated by Clusius. The pieces are about three or four inches square, of different degrees of thickness, from a quarter to three quarters of an inch. It is of a dark-brown cinnamon colour, an aromatic smell if rubbed, and of a pungent, hot, spicy taste, which is lasting on the palate, though imparted slowly. It has the name of Winter's Cinnamon, from a faint resemblance in colour and flavour to that grateful aromatic, though differing from it greatly in every other respect. This bark is only brought to us from the Straights of Magellan, and is the produce of the tree above described; much celebrated as an antiscorbutic by the first discoverers, but unknown in the practice of physic, no quantity, except as a curiosity, having been brought to Europe till the return of the ships sent out on the expeditions to the South Seas.

The bark which was substituted in the room of this, is the *Canella Alba* of the shops, the bark of a very different tree, and brought from a different part of the world, disagreeing with the former in almost every particular. It is of a light ash or grey colour; in thickness it seldom exceeds two-eighths of an inch.

inch. The pieces are of different lengths and irregular shapes, and for the most part are taken from trees of small size: its taste is aromatic, and has more of the clove than the cinnamon. It yields an essential oil by distillation, and is brought to us chiefly from Jamaica, though it is found I believe in some other of the West-India islands. There are a few plants of it in the stoves of some curious botanists in England, particularly in that belonging to John Blackburne, Esq; at Orford, Lancashire.

Sir Hans Sloane gives a figure of it in his History of Jamaica, from which it evidently appears to be a different genus from the *Winterania Aromatica*.

For want of the knowledge of these circumstances, and an opportunity of comparing the genuine Winter's Bark with the *Canella Alba*, some of the most respectable writers on the *Materia Medica* have scarcely been able to avoid confusion in treating this subject; which it is hoped for the future will be avoided, and the distinction between them sufficiently established.

EXPERIMENTS ON THE CORTEX WINTERANUS, OR
MAGELLANICUS, BY DR. MORRIS.

1. **F**IVE grains of *Cortex Winteranus*, in coarse powder, were infused in two ounces of cold water for about an hour; on adding to a part of the filtered solution gradually ten drops of a saturated solution of green vitriol, the liquor became of a blueish black, and a black sediment was precipitated.

2. On repeating the experiment with hot water instead of cold, five drops of the solution of vitriol struck a purplish black with the infusion; the sediment was next morning of a dark olive colour, not unlike the sediment from an infusion of the Peruvian Bark with *Sal Martis*.

3. On a comparative trial with the infusion of galls, though the phenomena were the same with solution of vitriol, yet on examining the sediment of each next day, that of the infusion of galls was blacker, lighter, and more copious than that of the Winter's Bark.

Two ounces of Winter's Bark coarsely powdered were infused in a pound of clear river-water for thirty-six hours; the infusion was filtered, half a pound of water was added to the residuum, and infused with it for the same space of time; being then filtered, it was mixed with the former infusion, and evaporated to a dry extract, which weighed two drachms and twenty-four grains.

On treating two ounces of this bark with the same quantity of proof spirit, two drachms and twelve grains of dry extract were obtained.

On proceeding in the same manner with rectified spirit of wine, two drachms only of extract were produced.

A pound of the said bark in coarse powder was infused in a proper quantity of water for twenty-four hours, and a gallon was carefully drawn off by distillation. The distilled water was clear, of a pleasant taste, and had something of the flavour of cinnamon. There was no essential oil.

The decoction evaporated afforded six ounces of a soft extract, of a grateful aromatic taste.

From these experiments, the *Cortex Magellanicus* appears to be an astringent of a particular kind, and therefore likely to be of use in several manufactures. That water is the proper dissolvent of this bark; though the saline, gummy, and resinous parts are so blended in it, as in saffron and some other vegetables, that it parts with them readily in proof and rectified spirits of wine, though not in so great a quantity.

The infusion and decoction of this bark were of so grateful an aromatic bitter taste, that it seems likely to be a pleasant vehicle for some of the nauseous drugs. With this view, on substituting the powder of this bark for the cardamom-seeds in making the infusion of fenna, as directed in the London Dispensatory, the nauseous smell and taste of that excellent purgative was so effectually covered, as to be scarcely distinguished by the nicest palate. Tincture of rhubarb also, prepared with this bark instead of cardamoms, seemed far less disagreeable.

It must not be concealed, that the *Canella Alba* from Jamaica, which is generally sold for the Winter's Bark in the shops, was found to have the last-mentioned property, but I think not in so high a degree.

M. MORRIS.

I shall conclude this account, expressing a wish, that this very elegant and not less useful tree might speedily be made a denizen of Britain. Here it would most probably grow luxuriantly, as in a much warmer region than its own: it would bear our severest winters, and be a most agreeable addition to our evergreens; and, what is still of more importance, it would probably furnish us with a valuable medicine.

Captain Wallis, though unsuccessful in his endeavours, has set an excellent example; and if those gentlemen who in future may be employed by their country in those parts of the world, take every opportunity of bringing either ripe seeds or plants to Falkland's Islands, or to England if possible, they would merit the thanks of the lovers of such ornaments, and render an essential service to the public. I am

Your Friend and Colleague,

J. FOTHERGILL.

OF

O F

A PAINFUL AFFECTION OF THE FACE *.

To the Medical Society in London.

Gentlemen,

WHEN I related to you, at one of our late assemblies, the purport of the following narrative, several instances of a similar affection were then recollected; cases, which, though nearly akin in appearance to the tooth-ach, and that kind of disorder of the jaw which is sometimes called the rheumatism, sometimes the ague in the head, and which had not given way to those remedies and applications that in such complaints are most commonly successful in curing them; you then thought that a more particular account of this disease, and the method of removing it, might not be unacceptable to the public: for though it does not every day occur, yet to be able to distinguish and to cure, with some degree of certainty, a disease, that, during the time it lasts, is extremely excruciating, is an addition, however small, to the utility of our profession.

In the third volume of the Medical Observations, among the remarks on the efficacy of hemlock in relieving some anomalous pains, there is one case mentioned of a person cured by it of a painful disease affecting the face†. It is a disease that has occurred to me several times; it seems to be of a singular nature, and, so far as I know, altogether undescribed.

This affection seems to be peculiar to persons advancing in years, and to women more than to men. I never met with it in any one much under forty, but after this period, no age is exempt from it.

The case does not occur very frequently. I can recollect but about fourteen instances in the course of my business.

* Medical Observations and Inquiries, vol. v. page 129. anno 1773.

† See p. 56, & seqq. of this volume.

This last year I was consulted for two women, one near eighty, the other about fifty years of age, both of them in other respects healthy.

From imperceptible beginnings, a pain attacks some part or other of the face, or the side of the head: sometimes about the orbit of the eye, sometimes the *ossa malarum*, sometimes the temporal bones, are the parts complained of. The pain comes suddenly, and is excruciating; it lasts but a short time, perhaps a quarter or half a minute, and then goes off; it returns at irregular intervals, sometimes in half an hour, sometimes there are two or three repetitions in a few minutes.

The kind of pain is described differently by different persons, as may be reasonably expected; but one sees enough to excite one's compassion, if present during the paroxysm.

It returns full as often in the day as in the night. Eating will bring it on some persons; talking, or the least motion of the muscles of the face, affects others; the gentlest touch of a hand or a handkerchief will sometimes bring on the pain, whilst a strong pressure on the part has no effect.

It differs from the tooth-ach essentially in many respects. It affects some who, from age, have few or no teeth remaining. It most commonly seizes some part above the sockets of the teeth, yet the teeth are sometimes affected with an exquisite sensibility, upon endeavouring to chew even the softest substance. The lower jaw is seldom attacked with this disease.

It differs likewise from that disorder which has obtained the name of an ague or rheumatism in the face, a disorder as painful as it is frequent. This, though it is often connected with some decay in the teeth and the nerves that are distributed to them, yet for the most part its exacerbations are regular in respect of time, like the fits of an ague; and at night, as in the rheumatism.

The tooth-ach, arising from a faulty tooth, does not often indeed afford much remission from pain, till either the inflammation is abated by some means, or the nerve is destroyed, or rendered less sensible.

But when to the usual cause of a tooth-ach this rheumatic disposition is conjoined, though the pains are never intirely off, yet the night is the time of their greatest severity. Besides, the season of the tooth-ach and this species of rheumatism is generally from the end of adolescence to the meridian of life, or later.

The disease which is the subject of this essay is seldom observed till between forty and fifty, and through the later stages of life. Contrary to what happens in the preceding complaints, the affection I am treating of is most commonly severer in the day than in the night; sometimes, indeed, it is excited to an extreme degree of violence by the lightest touch of the bed-clothes, which can scarcely be avoided in turning, or any other motion in bed.

Some

Some painful affections of the head, and which sometimes extend to the face, likewise occur in practice, that arise from ancient venereal complaints imperfectly cured.

These likewise, as the rheumatism above mentioned, are always most severe in the night; they come on insensibly about bed-time, they increase till morning, then abate, so as to allow a few hours sleep, and are little felt in the day. The pain is described by the patient to be in the bone itself, as if bored with a gimlet, or some other instrument. From its commencement in the evening till it abates in the morning, it never is entirely off, nor does it shift from one part to another of the head and face, as frequently happens in the rheumatism; besides, a little enquiry generally affords one sufficient grounds to justify the treating of it as a venereal complaint.

One of the first cases I met with was in a widow gentlewoman of about sixty-five years of age, who in general had enjoyed a good share of health, was in easy circumstances, and without any apparent cause of anxiety, or other latent causes of disease.

In a moment she would be seized with the most acute excruciating pain, affecting the inner *canthus* of the eye: it lasted but a few seconds, forced out the tears, and gradually went off. In a few minutes the same thing happened, and in like manner at unequal distances during the day, so as to occasion a life of great misery.

Its appearance was like that of a severe spasm: it had been considered as such, and treated with the most efficacious antispasmodics, but to little purpose; the pain still continued returning in the same manner. Opium in considerable doses was the only medicine that procured relief; but the costiveness it occasioned, with the thirst and head-ach, almost made her of opinion, that the remedy was not less difficult to bear than the disease. At length, however, it seemed to decline by the use of extract of hemlock, together with her strength; general ill health ensued, and she continued a sufferer by it to her death.

As I was often present when these exacerbations happened, it was not difficult to recollect the disease when I met with it in other subjects; several of whom I have seen, and always with concern, as the methods I had pursued for the most part obtained but a temporary relief, till I made use of the extract of hemlock in the case above mentioned. Since that time I have had recourse to it whenever the disease occurred, and for the most part with success.

One of the last cases I met with, was the most obstinate I had seen. A gentlewoman near fifty, of a full habit, rather strong make, accustomed to plenty, and using much and various exercise, had been seized with a violent pain affecting one side of her head and face, from the upper edge of the temporal muscle down its whole extent, and reaching to the teeth on that side. Before

I had been in the room two minutes, I suspected, from the violent contortions of the face and the whole body, that her complaint was of the kind I have been describing. Not that these contortions are spasmodic or involuntary, but such as severe pain often occasions, when we endeavour to abate the sense of pain in one part by a general exertion of force upon some other, or over the whole body. Speaking, or chewing, or even slightly touching the skin or the side affected with the softest handkerchief, would immediately excite the pain, which, after continuing perhaps a quarter or half a minute, gradually went off, till it was again awakened by some fresh motion. She had been under the care of several persons of eminence in the profession, who had scarcely left any rational methods of relieving her unattempted. She had no fever, no other indisposition that pointed out means of relief.

The extract of hemlock was ordered, the quantity gradually increased to a full dose; and this was continued almost a month before any considerable amendment was observed. So much relief, however, was obtained as to encourage us to proceed. Sometimes, indeed, it returned for a few days with as much violence as ever. Still we persisted. It was almost a year that she persevered in this method; and, to her entire satisfaction, near another year has elapsed without perceiving any intimation of it. She took no other medicine during the use of the extract, except sometimes a gentle laxative when occasion required; nor was her diet altered, only some cautions given to use the lightest and least savoury kinds, with some restrictions in regard to quantity.

In cases of singular difficulty and obstinacy, it is natural for us to be inquisitive into their causes and their nature; unsuccessful experiments sometimes lead the way to instruction; and we ought never to cease investigating the most abstruse recesses of nature, nor at the same time forget the narrow limits of our capacity, and the danger of presumption. What therefore I have to offer upon the nature of this disease, is rather submitted to your consideration as matter of further enquiry, than as opinions sufficiently established.

On reviewing the cases I have seen of this disorder, I recollected that the subjects were mostly women; that they were for the most part, if not all, past the time of menstruation; that they were generally of a firm and somewhat robust habit, with black hair, and not subject to any particular diseases. Most of them had borne children; and nothing remarkable had occurred about the cessation of the *menfes*; in general, rather of a costive habit, and in the middling situations of life.

In two of these cases, a small hard tumour in the breast had occasioned some suspicion of a schirrhus; but had never proceeded to give trouble.

These appearances, however, excited my attention, and induced me to suspect that the cause of these extreme pains in the face might possibly be of a cancerous

cancerous nature; the method of cure and other circumstances seem to corroborate the suspicion.

The sex, the time of life, two cases where a tendency to this was obvious, as well as the kind of pain, which was sudden, frequent, and severe, and as suddenly remitting, were to me further confirmations.

In tracing the history of persons afflicted with cancers not apparently proceeding from external causes, we shall find for the most part they have been afflicted with erratic pains in the limbs, often about the loins, sometimes in the thighs, and other muscular parts. These have commonly been considered by the patients as merely rheumatic; but if we enquire more particularly, we shall find they are very different. They are not always worse in the night than the day. They are not a dull, heavy, aching pain, and continual; but sharp, lancinating, and remittent. They are not much affected by the weather, nor by any obvious causes; and they frequently disappear for some time; at least, there is a considerable abatement in their violence.

These pains do not always cease when the cancer becomes obvious; they are sometimes severe when the disease is making great progress externally: and experienced surgeons well know how little benefit the unhappy patients have to expect from removing the breast or other diseased part, if they have been long subjected to such complaints.

It seems not improbable, but that a sharp, corrosive, cancerous acrimony may long be pervading, like electrical matter, certain series of vessels, and, when collected in a certain quantity, may create these pains; yet without seizing upon any part with such violence as to destroy its functions. But if a part that favours its operations is once injured, those we call glandular especially, as the breasts, and the subcutaneous glands in the face, and other parts; if these become incapable of resisting or subduing the cancerous matter that may be thrown upon them, the mischief then becomes evident, and advances in proportion to the combination of those causes which favour its progress. An original disposition to form such acrimony, bad health, anxiety, external injury, and extreme sensibility of pain and danger, seem to constitute a part of these causes.

There are few physicians, I believe, who may not, on reviewing many cases which have occurred to them of anomalous pains in different parts of the body, so as sometimes to counterfeit gouty, bilious, and other internal affections of the stomach and bowels, perceive some analogy between them and the complaints here pointed out.

Perhaps a cancerous acrimony may have been the basis of some of these stubborn evils, and probably a good deal of mischief might have been prevented by treating them early as if they were known to be of a cancerous complexion, by opening a drain, by repeated small bleedings, by gentle cooling laxatives,

the hemlock, a light diet, and the other usual auxiliaries in such complaints. It is with a view to promote some attention to this object, that I have troubled you with these reflections.

P. S. Since the preceding account was presented to the Society, I have met with two more cases of this painful affection; and found upon enquiry, that in both these there had been hard, permanent, and painful tumours in the breast; that these tumours became less painful when the face was attacked; and that both the one and the other had yielded to the efficacy of this medicine, the pain and the tumour both abating.



MIMOSA Japonica.

J. L. Smith del.





Plate V.

MIMOSA Japonica.

A N
A C C O U N T O F T H E T R E E
P R O D U C I N G T H E
T E R R A J A P O N I C A,

Communicated by Dr. FOTHERGILL*.

To the Medical Society in London.

Gentlemen,

YOU will excuse me, I hope, for introducing to your notice, an exact description of the tree that produces the Extract called *Terra Japonica*. Hitherto it has rather been guessed at than known, from whence this substance derives its origin; the best of our writers on the *Materia Medica* have given us very little of certainty concerning it.

The figure here exhibited is copied from a drawing taken on the spot, compared with a good specimen transmitted with it, of the leaves, flowers, pods, and seeds. The several parts of the flower have been examined by the microscope, and delineated with great accuracy; and every doubt concerning the origin of this substance will hereby be removed. It will give you some satisfaction to know, that some of the seeds have vegetated; and that perhaps we may be able to propagate the plant, so far as to send it to our West India islands, where it will probably flourish, and yield us, by the labour of our own people, an Extract in greater perfection than can be expected from a process attended with so little care in the East Indies. If I have trespassed too much on your plan, by introducing so many articles of Natural History, I must entreat your indulgence for the present: it seems to be doing some benefit to science, to re-

* Medical Observations and Inquiries, vol. v. p. 146, anno 1773.

move ambiguity, and prevent all possible mistake. Your works, Gentlemen, pass into the hands of many ingenious medical persons who traverse the most distant parts of the globe. Instances like these, prompt them to observe; and it is from the labour of such, that this part of science, a perfect knowledge of the *Materia Medica*, has hitherto, and must still derive its greatest improvements.

This account was drawn up by an attentive, able naturalist, assistant-surgeon to the civil hospital at Bengal, and transmitted by the learned and worthy Lieutenant-colonel Ironside to

J. FOTHERGILL.

Extract of a Letter from Mr. James Kerr, to Lieutenant Colonel Ironside.

Dear Sir,

I Have endeavoured to set in a clear light a part of natural history concerning which the learned have wrote many inconsistencies. I wish it had been done by an abler hand; for a person of my obscurity will hardly be trusted, when contradicting so many great men. The description was taken from the living plant, and I carefully attended the process of the manufacturer, and repeated it myself; so that however defective the descriptive part may be, it will certainly have the merit of being strictly true. I am,

Dear Sir,

Your most obedient servant,

(Signed)

JAMES KERR.

A Description of the Plant from which the Terra Japonica is extracted.

THIS plant is called Coira or Caira by the natives of Bahar Province.

It appears to be the same as mentioned by Cleyerus, Dale's Pharmacologia, p. 271. and by Herbert De Jagur (see Hill's Materia Medica, p. 785.) from which he says the natives of Pegu prepare this Extract; they name the tree Kheir or Khadira.

It is a species of the Mimosa of Linnæus.

The root is branching and permanent.

The stem is generally from three to five feet high, and will grow to about one foot diameter, covered with a thick, scabrous, dehiscent, brown bark, and branching into a dense, spreading top, seldom above twelve feet high; the wood

wood is extremely hard and heavy, the interior part varies from a pale brown to a dark red, approaching to black in different plants, but always covered with one or two inches thick of white wood.

The leaves arise from the young branches alternately, at one or two inches distance, from four to ten inches long, and doubly winged; the partial wings are nearly two inches long, and from fifteen to thirty pairs, having small umbilicated glands on the superior part, placed between the insertions of the wings, and one larger placed below the first pair; each wing has about forty pair of linear lobes three-tenths of an inch long.

At the base of each leaf there are two recurved prickles; in young plants they are strong, in the old plants they are often flexile, and scarce visible. Nature thus partially guards the young of several *Mimosa*s and other prickly plants: it is a mistaken opinion that animals will not eat the leaves of the *Mimosa*.

From the axilla of the leaf arises one, sometimes two, dense spikes, four or five inches long; the flowers are small, white, sessile, with a small deciduous squama under each flower.

The empalement is of one tubulous pubescent leaf, divided at top into five acute patent parts.

The petal is of the same form as the calyx, but double its length, and whiter.

There are a great number of capillary filaments double the length of the petal, adhering together at the base of the germen: the antheræ are small and almost globular.

The germen is oval, with a short pedicle, and a filiform style as long as the filaments, with a very small terminating stigma.

The legumen is about two inches long, lanceolated, brown, smooth, (not jointed) and compressed with an undulated thin margin.

The pod contains six or eight orbiculated, hard, compressed, distant seeds, producing a nauseous odour when chewed.

It is one of the most common trees to be met with on the uncultivated mountains of Rotas * and Pallamow, and frequent in many other parts of this country, in various soils.

The leaves and flowers appear in June; in the day the leaves are expanded, in the night they collapse; and after the process of fructification is finished, they fall off, and the aculei decay. The pods remain until April following; when a branch is lopped off, the leaves instantly collapse.

From the interior coloured wood is produced the Extract erroneously called *Terra Japonica*.

* Districts of Hindostan, in the province of Bahar, westward of Bengal.

Preparation of the Extract.

After felling the trees, the manufacturer carefully cuts off all the exterior white part of the wood. The interior coloured wood is cut into chips, with which he fills a narrow-mouthed unglazed earthen pot, pouring water upon them until he sees it among the upper chips; when this is half evaporated by boiling, the decoction, without straining, is poured into a flat earthen pot, and boiled to one-third part; this is set in a cool place for one day, and afterwards evaporated by the heat of the sun, stirring it several times in the day; when it is reduced to a considerable thickness, it is spread upon a mat or cloth which has previously been covered with the ashes of cow-dung; this mass is divided into square or quadrangular pieces by a string, and completely dried by turning them frequently in the sun, until they are fit for sale.

This Extract is called *Cutt* by the natives, by the English *Cutch*; by authors *Terra Japonica*, *Catechu*, *Cadtchu*, *Cashow Cashou*, *Caitchu*, *Castjoe*, *Cachore*, *Kaath*, *Cate*, &c. In making the Extract the pale brown wood is preferred, as it produces the fine whitish Extract: the darker the wood is, the blacker the Extract, and of less value. They are very careful in drying their pots upon the fire before they are used; but very negligent in cutting their chips upon the ground, and not straining the decoction; by which, and the dirty ashes they use, there must be a considerable quantity of earth in the Extract, besides what avarice may prompt them to put into it. This the learned have proved from their laborious chemical decompositions. The Extract, thus prepared, is bought from the manufacturer for twelve or fifteen shillings the eighty pounds weight. I could never learn that the *Terra Japonica* was produced from the *Areca* or *Betle-nut*; nor is it indeed credible that it should, notwithstanding that this is the general and received opinion; for the *Betle-nut* is scarce ever so low in price as the *Terra Japonica*, and was it to be extracted from thence, the price would be twenty times dearer than the present sales. Where the *Areca-nut* is in great plenty, they may perhaps join some of the fruit in making the Extract, to answer a double purpose, for the most frequent use of both is in chewing them together, as Europeans do tobacco; to these two substances they add a little shell lime, and a leaf called *Pauw*.

Here I am obliged to have recourse to the natives, whom from experience I have found to be very fallacious, therefore I will not answer for their veracity.

The Extract is much used in dying and painting chintz, and other cloths; combined with vitriolic salts, a black colour is produced; mixed with oil, they paint the beams and walls of houses to preserve them, and to defend them from the destructive white ants; it is sometimes mixed with their wall plaister.

The

The black physicians of this country divide the diseases of mankind, as well as their medicines, into hot and cold; to the cold disease they oppose a hot medicine, and to the hot disease a cooling medicine, among which last this Extract is supposed very powerful. When too profusely used it is said to be a destroyer of venereal pleasures.

It is given at the rate of two ounces per day to tame vicious horses.

The Furnace used in making the Extract.

Dig a hole in the earth five or six feet long, two feet deep, and two feet wide; cover this with an arch of clay, leaving one end open to receive fuel, and take out the ashes; in the arch three or four circular openings are made, adapted to the bottoms of the pots: the same structure may be raised above ground, made of clay. This furnace is very valuable for its simplicity, easy construction, and small expence of fuel.

The Extract is a principal ingredient in one of their ointments of great repute, composed of blue vitriol four drachms, Japan earth four ounces, alum nine drachms, white resin four ounces; these are reduced to a fine powder, and mixed with the hand, adding olive oil ten ounces, and water sufficient to bring the mass to the proper consistence of an ointment. This ointment is used in every sore, from a fresh wound to a venereal ulcer. A gentleman* of great practice told me, he used this ointment with success beyond expectation; and he remarks, that, whether it is owing to the laxity of the solids in this hot climate, or to some other cause, he is clearly of opinion, that our greasy ointments have not the desired effect. Certain it is they avoid that *empyreuma* which our ointments often receive in boiling, which cannot be a promising application to a tender sore. As to the virtues of this Extract in European practice, I must be silent, as they are already better described than I can pretend to do.

(Signed) JAMES KERR.

* Mr. Robert Hunter, Surgeon of the Patna Factory.

The first of these is the fact that the United States is a young nation, and that its history is a history of growth and development. It is a history of a people who have been able to overcome many difficulties and to build a great nation out of a small colony.

THE HISTORY OF THE UNITED STATES OF AMERICA

The second of these is the fact that the United States is a young nation, and that its history is a history of growth and development. It is a history of a people who have been able to overcome many difficulties and to build a great nation out of a small colony.

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OF THE
M A N A G E M E N T
PROPER AT THE
CESSATION OF THE MENSES*.

To the Medical Society in London.

Gentlemen,

THERE is a period in the life of Females to which, for the most part, they are taught to look with some degree of anxiety; as a period on which depends their enjoying a good or bad state of health during the residue of their lives.

The various and absurd opinions relative to the ceasing of the menstrual discharge, and its consequences, propagated through successive ages, have tended to embitter the hours of many a sensible woman. Nor have these mistaken notions been confined to them only; they have occupied the minds of such who ought to have been better informed: some practitioners, in other respects able and judicious, if they have not favoured these erroneous and terrifying notions, seem not to have endeavoured to correct them, with the diligence and humanity which an object like this requires.

The design of this essay is to contribute my mite towards so necessary a purpose; to assist in removing these groundless apprehensions, and to substitute a reasonable confidence, that, with very little aid, Nature is sufficient to provide for her own security on this occasion.

You must forget for a moment that I am submitting these remarks to the judgment of a Society, every member of which, perhaps, is as capable of this work, and some much better than myself. I am writing to many sensible young men in the profession of physic, who, though they may have applied themselves

* Medical Observations and Inquiries, vol. v. p. 160. anno 1774.

to the general study and practice of our profession with diligence and success, may not yet, perhaps, know where to look for such information on this subject as may be sufficient to satisfy themselves and their patients, what management is proper when the Menfes are about to cease.

To propose a regimen that shall suit all the different cases that may occur, would require a volume. To give some general direction is all I intend, without entering into a minute description of the commencement, progress, and termination of the Menfes. I must suppose every thing of this kind is already known, and that the single question is, What conduct, what management is necessary to be observed, when the Menfes are about to cease, by the patient who consults her physician on the occasion? We are now sensible that the menstrual discharge is not, what it was too long and too generally believed to be by many of the sex, an evacuation of peccant matter and morbid humour, sometimes acrimonious and malignant, whose retention, from its noxious qualities, never fails to be extremely injurious to the constitution. What opinion the ancients entertained concerning it, I need not repeat to you: that its malignancy was such as to affect even inanimate bodies. But these fables are wholly disbelieved, except by some of those who ought to be undeceived in a matter that so much concerns them.

It is now well known, and the sex cannot be too generally apprized of it, that the menstrual discharge possesses no such injurious or malignant properties; that it is solely a redundancy of that pure vital blood, which animates the whole frame of a healthy person; and that its retention is by no means attended, in general, with effects that are not as easily removed as any disorder to which they are subject.

That some acrimonious morbid humours may be discharged together with the Menfes, when any such exist, is not improbable. So it happens likewise to men subject to the piles, or other preternatural excretions.

Women who have unhappily imbibed that prejudice, are naturally alarmed at the consequences they apprehend must ensue from such a change in their constitution; and the more strongly they are prepossessed with a belief, that by this channel has been regularly discharged whatever had a tendency to produce diseases, the more they are terrified with apprehensions of some of the worst complaints: and, indeed, it is not seldom that, by such anxiety, they bring on disorders that are not easily removed, attributing them to the cause we are speaking of, whilst they principally originate from anxiety.

For the most part, the menstrual discharge, as has been mentioned, proceeds from a redundancy of good and healthy blood: this redundancy is formed for the most necessary purposes; continues whilst this necessity subsists; and ceases when, according to the constitution of the female frame, it is no longer required.

The powers communicated to the human system, generally expressed by the term Nature, are such as spontaneously bring about this cessation. The provision for the Menses ceases, an extra quantity of blood is not generated, and the vessels provided for its regular discharge by degrees collapse; and in general all this proceeds without any the least interruption to the health of the subject in which this alteration happens. Here it might not be improper to mention at what time this alteration first begins, and the general period of its cessation. These circumstances, however, may be found elsewhere so amply treated of, as to render it as unnecessary as it is foreign to my present design.

There are great numbers of women in whom the menstrual discharge ceases, without their perceiving any alteration in their usual health. There are some who, from being invalids during a part of the season which is appropriated to menstruation, find themselves by degrees recovering health and vigour, to which they have been strangers during that period, when this discharge leaves them entirely. Very tender, delicate, relaxed habits, subject to copious discharges, are often much benefited by the cessation. All, however, are not so fortunate. Some alterations frequently supervene, that render assistance necessary.

Amongst these alterations, the most frequent are such as arise from a redundancy of blood and immoderate discharges from various causes.

About the time when this change is to happen, or not long after, many persons find the disorders to which they have heretofore been subject, more frequent and more troublesome. Some are afflicted with the well-known symptoms of plethora, heat, flushings, restless nights, troublesome dreams, and unequal spirits; others are attacked with inflammations of the bowels, or other internal parts, spasmodic affections of various parts, stiffness in the limbs, swelled ancles, with pain and inflammation, the piles, and other effects of plenitude. In these cases it seems as if the organs, which were instituted with a design of providing the natural surplus, continued to produce this effect, whilst the size of the vessels destined to discharge it, was diminished, or they were collapsed entirely.

This case is opposite to the former; in that the organs of excretion continued to execute their functions, and actually discharged a portion of blood from the common mass, whilst those organs which are formed to provide a surplus in enfeebled habits, were only capable of maintaining the necessary stock. And on the disparity in the operations of these two different organs, in fact, depend most of the complaints incident to the sex at this particular period. In some, the provision ceases before any change is produced in the excretory vessels. In others, the excretory vessels become unfit for their office, whilst the organs for accumulating blood continue to be efficacious.

From

From this view of the subject, it will be less difficult for the practitioner to form a judgment of what is fit to be done on various emergencies: it will be easy to discover how far evacuations are likely to avail; and when other means become necessary. Those of full plethoric habits, accustomed to copious evacuations, will find great relief by bleeding frequently in moderate quantities, keeping the bowels lax, and moderating their diet. They are, for the most part, attacked about the time of menstruation with sudden flushing heats, succeeded by instantaneous sweats, continuing for a few seconds, then going off for a short time, and again recurring many times in the day; they are worst after eating, in a room much heated, in large assemblies, in bed attended with restlessness and frightful dreams. These gradually abate for a few weeks, and as the period approaches again, come on, and so successively, for a year or two, or more; terminating sometimes in large immoderate fluxes, sometimes in apoplexies, palsies, and other diseases arising from plenitude.

If such are advised to lose four, five, or six ounces of blood, at the distance of two, three, or four months, just as the vehemence of the symptoms requires, every thing of this may be happily prevented; and as the occasion for bleeding daily decreases, its repetition may be put off to longer intervals.

It happens frequently, that some circumstances attend the patients, which induce practitioners to omit this operation, or at least induce the patients to object to it in such a manner as to get it postponed. They allege they are subject to nervous complaints; they never could bear bleeding; it always hurt them; and the like. But with a full, hard pulse, great heat, and the other symptoms described, one need not fear the increase of any such complaints; on the contrary, as they proceed so evidently from plenitude, they seldom fail to give way to moderate and repeated evacuations.

It is not unusual in such cases to be informed, that the patient has swelled ancles; and that bleeding would inevitably, at that time of life, bring on a dropsy. But if this fulness appears to be hard, inflamed, and painful, as is most commonly the case in some degree, the lancet and some gentle laxative will scarcely fail of removing, instead of aggravating, the complaint; and recourse may be had to the same remedies, if the like complaints recur.

There is another circumstance often happens at this period, sometimes owing to the neglect of evacuations at a proper time, sometimes to the use of improper medicines, sometimes to the peculiar constitution of the patient; I mean an immoderate flux of the Menfes, which often requires the utmost care in its restraint and future regulation.

For the most part this happens to women of sanguine habits, living well, accustomed to copious evacuations, or to the general effects of plenitude.

If, in such constitutions, the evacuations are not very considerable, their health is often interrupted, either by frequent inflammations of the tonsils, and
5 other

other glandular parts, or they have the rheumatism, erysipelas, or the piles; if in these habits the Menfes cease very suddenly, they are either exposed to the complaints above mentioned, more frequently, and to a more violent degree, or to repeated and excessive floodings. A little attention to these circumstances, will often point out the means of effectual prevention. But if it does happen, it seems much more prudent to restrain the flux by gentle laxatives, cooling medicines, rest, anodynes, a most sparing diet, and this not too liquid, than by very copious bleeding, and astringents of any kind.

There is another kind of habit to which such immoderate discharges are too familiar;---to persons of very irritable constitutions, and at the same time not remarkably plethoric. If in such constitutions the Menfes go off very suddenly, it happens sometimes that the impetus of the blood on the uterine system produces a violent hemorrhage, that enfeebles extremely at the time, and, as it increases the irritability of that part of the system in particular, subjects the patient to very frequent and expensive relapses.

In these cases, bleeding would undoubtedly increase the disease. Medicines that allay irritation, anodynes, quiet, a moderate cordial, as wine, and a light nutritive diet, at once take off the cause, and enable the patient to support the expence with the less difficulty.

It has happened that a regular intermittent has been attended with a regular and immoderate flux. In seasons when autumnal intermittents are frequent, such circumstances will now and then happen to patients who have suffered considerable loss about the time of cessation. In such cases the bark, given with the same freedom as in curing the ague, safely cures both the flux and the intermittent.

Sometimes these immoderate fluxes proceed from some irritating cause resident in the uterus, or the parts contiguous to it. And amongst these none is more common, than that deposition of acrimony which precedes a cancer of the parts.

In such cases the most apposite remedies are often ineffectual. The flux is attended with pain and heat darting across the pubes, from hip to hip, and down to the middle of the thigh. Large clots of blood are frequently discharged, that give exquisite pain in passing, and at the same time the flux is increased by the stimulus.

It is not uncommon in such cases to see the bark administered very freely, and I am afraid to no good purpose. Indeed it requires the hand of a master to give this medicine properly in uterine discharges. In cases of plenitude it is injurious; it seems to be so likewise in this case just described. In such as proceed from mere debility and relaxation, it may stand a much better chance of being useful; but it is to be feared, that incipient schirrhous and other obstructions have been much aggravated, by the injudicious exhibition to restrain

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a discharge,

a discharge, which depended on causes not in the power of this great medicine to subdue.

To enter into all the particulars that attend this event, will be unnecessary: Permit me, however, to make some remarks upon the kind of purgatives that are much in use upon these occasions, and to some of which there are very just objections.

An opinion generally prevails among the sex, that purgatives are particularly necessary at this juncture; and is assented to by the generality of practitioners, who, had they made a proper choice, would have acted more prudently. Various preparations of aloes, the *tinctura sacra*, *pil. Rufi*, *elixir proprietatis*, and other compositions of this kind, are recommended, from one to another, as proper purgatives to be used on the cessation of the Menfes.

But if we reflect a little upon the known effects of this drug, in all its preparations, we shall find it almost uniformly producing the piles, if taken long together, and in considerable doses.

From its effect in stimulating the hemorrhoidal veins and contiguous parts, it has long been adopted as the basis of most medicines exhibited with a view to promote the menstrual discharge in young females, where it does not appear at the usual time, or in a proper quantity, and often with success. It can scarcely then be rational to give that medicine, which is found to be efficacious, from its power of irritating the hemorrhoidal and contiguous vessels, and determining the blood with a due degree of force on the uterus, to produce the Menfes, at a time when we are endeavouring to abate this impetus, rather than increase it: in short, it seems highly absurd to make use of those medicines when the Menfes are about to cease, and ought so to do, which are given to provoke and promote this evacuation. Instead, therefore, of countenancing a treatment which is not only unreasonable in theory, but injurious in practice, every convenient opportunity ought to be embraced, to expose and correct a popular error, than which perhaps there are few in the circle of medicine that are more mischievous.

Repeated instances have occurred to me, of grievous inconveniences arising from these heating medicines; the piles, strangury, immoderate discharges of the Menfes, racking pains in the loins, representing labour-pains, and other similar complaints.

There are many persons, it is true, who cannot easily bear the more cooling purgatives; very tender delicate habits are mostly affected by them: but it is not difficult to contrive cathartics, neither heating like the aloes, and other gummy resinous medicines, nor yet chilling as the salts. Rhubarb, senna, magnesia, sulphur medicines, small doses of jalap, and various combinations of them, will supply sufficient variety to the prescriber and the patient.

It will be of more efficacy in curing of complaints arising from the causes

we are treating of, to contrive some easy method of preventing costiveness, than to be dealing often and freely with purgatives of any kind. It happens in some constitutions, that the menstrual discharge is protracted much beyond the usual period of its cessation in others. Whilst it proceeds regularly, comes at the proper time, and in due quantity, the patient in the mean time perceiving no inconveniency, no perceptions of declining health, suffers it to keep its course, without attempting to restrain it. Should the health in general suffer by it, the same means that succeed in lessening immoderate discharges, may properly be applied in this case.

When the Menfes are about to go off, for the most part they appear irregularly, both in time and quantity; once in a fortnight, three, five, or six weeks, sometimes very sparingly, at other times in immoderate quantities.

Great losses of this kind are often prevented by taking away four or five ounces of blood, a few days after the first menstrual suppression. This prevents the accumulated blood from rushing with force upon the uterine vessels at the ensuing period, and producing pain or a too copious hemorrhage. By degrees the occasion for such artificial evacuation diminishes, and the patient's health becomes firmly established.

An opinion in favour of issues at this period of life, has occupied the minds of many patients; some with the hopes of preventing all future evils capable of proceeding from this cause; others with the terror of carrying about with them for life a drain which they think of with extreme disgust. Perhaps the use of these outlets deserves some consideration. When a patient has in early life been subject to cutaneous eruptions, sore eyes, glandular swellings, or other obvious marks of morbid humour subsisting in the constitution, and all which may have disappeared about the time the Menfes became regular, if no invincible opposition is made to it, a drain is now certainly adviseable, and may prevent many inconveniences.

Should any cutaneous foulnesses, any ulcerations, any fugitive pains of the cancerous or rheumatic kind, hardnesses in the breast, or other parts, be evident, all such complaints would probably be in part relieved by issues. But when none of these circumstances appear, or have appeared, it seems scarcely reasonable either to propose or permit a certain inconveniency, to call it by no harsher a term, in order to cure a disease that has no existence.

It is necessary to enjoin, in many cases, a most strict attention to diet and exercise, to the full and plethoric especially. Meat suppers should be avoided as much as possible, and likewise much animal food, by those who are liable to immoderate evacuations. If they could subsist two or three days in a week on pudding, vegetables, and things prepared from them, such a method would contribute greatly to prevent not only these copious discharges, but various

accidents that arise from plenitude, such as palsies, apoplexies, fevers, and inflammations. Their liquors should be regulated likewise by a similar scale.

They should avoid all heating exercise, frequenting large assemblies, or hot close rooms, near the approach of the usual period. In the intervals, exercise will be extremely necessary.

It will not be altogether foreign to this subject, to mention two cases which now and then occur in practice, and sometimes cost both the patient and physician some perplexity.

A woman enjoying very good health, sometimes is seized with a total suppression of the Menses, much sooner than they ought to disappear, perhaps soon after thirty years of age. A fever, surprize, anxiety, sudden and violent cold, especially if it happens at the time, will put a total stop to the discharge.

For many months, sometimes a year or two, she feels very little effect upon her health by this suppression, perhaps grows plump, and seems disposed to corpulency; by degrees, however, she perceives herself not to be so well as usual; she is liable to colds, inflammations of the tonsils, erysipelatous eruptions, rheumatisms, but most commonly severe affections of the bowels, either inflammatory, bilious, or spasmodic: one or other of these return frequently, and often violently, in six weeks, two months, or longer, but at no very regular periods; and in this manner continue to harass the constitution (if the person survives the severe attacks of the colic or other disorders incident to this state) till about the time when the Menses should cease spontaneously.

An attention to the cause of these disorders, supplies us with a natural and efficacious remedy. Substitute at convenient distances artificial evacuations, instead of the natural one that is suppressed, and, if possible, previous to the disorders to which the suppression has given rise; bleeding in small quantities two or three times a year; moderate purgatives frequently exhibited; and, particularly, attention to their diet, which ought to be moderate and mild. At the first sensations of sickness, or great heat and restlessness, or pains beginning to affect the stomach or bowels, or any of those symptoms which have usually been the forerunners of the disorders above mentioned, then is the season for preventing those difficulties which arise from this preternatural suppression.

Another case likewise sometimes occurs in practice, which it may not perhaps be improper to mention.

Women of an apparently healthy, sanguine constitution, disposed to corpulency, using little exercise, accustomed to live plentifully, perceive a sudden suppression of the Menses, at a time of life when there is reason to expect many years continuance; from thirty-five years of age and upwards: in a little time they grow full, the belly seems to swell, with tensive pains, pain in the breast,

breast, some enlargement of them likewise, some little sickness in the mornings, dislike to particular foods, and other symptoms similar to those of pregnancy; and married women are so fully satisfied of it, as to believe themselves in this situation, and that they actually perceive the motions of the child.

This circumstance happens most commonly to those women who have been married rather late in life, *viz.* between thirty and forty. Their inexperience leads them to take up with the opinions of those about them, and they are sometimes not undeceived till the time of gestation is much exceeded.

Women also who have been long married and had children, several years after the Menfes stop, suddenly grow bigger, suspect pregnancy, and treat themselves accordingly; abstaining from exercise, they eat what their appetites, often craving and depraved, require, till they have exceeded their reckoning so long, as to be sure they have been mistaken.

The like complaint happens now and then likewise to single women about the age of forty, or near the time when this evacuation ought to stop. The belly grows large, they become unwieldy, their legs swell, and the apprehension of a dropsy brings on a variety of complaints. The hemorrhoids are commonly the attendants of all these subjects. Sometimes one may trace out some probable causes from which this preternatural state may probably be derived, but not always clearly. The proper treatment is, however, not difficult to discover. The general turgescence, though it proceeds primarily from a retention of the Menfes, does not appear to be confined to the uterine vessels alone; all the venous system of the lower belly is affected; the lymphatics also, in consequence of the general oppression. The legs often swell, the piles are almost always troublesome, the patients are generally costive, the urine in small quantities and often discharged, and all the thinner secretions diminished. Yet the countenance and appearance of the whole habit denote a general plentitude, but very different from the bloated body of an hydropic. Repeated bleeding in small quantities always gives relief. Sulphur and magnesia, or other easy laxatives given constantly, prevent the piles, and keep the belly gently open. Regular exercise on horseback, or in a carriage, is quite necessary to effect a cure, which is for the most part slow and tedious, but in general certain. Purgatives approaching to the drastic kind are often injurious, and so are copious evacuations by bleeding, though small ones are essentially necessary. Their diet should be light, but not too liquid. By means like these the general fulness gradually subsides; they seldom have any return of the Menfes, except now and then some slight intimations.

Permit me to mention another case, which, though it does not absolutely relate to the present subject, is not quite foreign to it. Nothing, perhaps, is more excruciating to the patients, nor in common more difficult to cure, than painful menstruation; it impairs their health at present, and seems to render

der them less prolific in future: to the sufferers it is a most serious evil. By the following short process I have been happy enough to relieve several. Let the patient have by her a few pills, consisting of *extr. theb. gr. j.* each, made soft with a little of any kind of conserve. She is to take one of these pills the moment she finds the pain attending this discharge coming on. A pill may be taken every hour till the pain goes off: they seldom require more than two of these pills; one is often sufficient, if given early; and it ought to be a constant rule observed in administering anodynes, to give them, when they are plainly indicated, early. It requires much less of an opiate to obviate pain, than to quiet it when acute.

Let the patient keep either in or upon the bed, at least in a recumbent posture; let her drink moderately of any diluting liquor, and of the herb teas, weak whey, thin broth, or what else her constitution may particularly require.

When the time is past, a course of chalybeate bitters, in small doses, may be continued till within a few days of the return; and the belly should be kept open by some proper laxative; two or three grains of *cathart. extract.* with half the quantity of *calx antimonii illota*, taken every night, will often succeed perfectly well. The anodyne must still be in readiness to take when the pain comes on, and to be taken to such a quantity as to mitigate the pain, let the dose be what it may.

This excruciating pain seems to be spasmodic, and to proceed from the extreme irritability of the uterine system: the blood naturally determined hither, in order to its being discharged, by distending the very irritable vessels, occasions the spasm; this produces a constriction of the vessels; they become impervious, and the nifus to the discharge continuing, the pain becomes exquisite and general, till the patient, worn out with the struggle, is debilitated and sunk; the fluids are then dismissed, some ease succeeds, but the patient is often so reduced as not to recover her usual strength before she has another conflict to undergo.

The *fluor albus* is frequently the consequence of this struggle, and it would seem as if the *uterus* itself was so far a sufferer as to be rendered by degrees less fit for fecundation. I think it has been observed by other physicians, as well as myself, that few of those who have suffered much in the manner here described, have borne children.

T H E

C A S E O F A H Y D R O P H O B I A *.

I SHALL introduce what I have to say upon this Case, by an account of what happened before I saw the patient, as it was drawn up by W. French, his apothecary.

* This paper, which was originally published in the *Med. Obs. & Inq.* vol. v. p. 195: an. 1774, was afterwards reprinted in the form of a pamphlet, with the following Introduction, and Additional Observations.

Editor.

“ I HAVE been solicited to reprint the following Case, that it might pass into many hands where the work in which it was first inserted may never come. I yielded to this solicitation the more easily, when I found that neither the Society to which it was presented, nor the Book-seller whose property it is, had any objection to its being published in this manner.

“ The reader must not expect to find in it a cure for the Canine Madness. He will find, perhaps, nothing more of certainty in this respect than that ALL the remedies hitherto proposed, either as preventives or cures, are found by experience to be altogether ineffectual.

“ To rely on any popular means of preventing the fatal effects of this poison, whether known and generally divulged, or preserved as secrets, which, as the Tonquin medicine, are found to be incompetent and ineffectual, is a dangerous deception.

“ Were it only to give one incontrovertible fact in evidence against such pretensions, and of course to stimulate the faculty to make a farther search after more effectual relief in this disorder, it would be doing some service to society.

“ Dr. Vaughan of Leicester has lately published some cases of the Hydrophobia, which in divers respects confirm the intimations given in the cure referred to. And the very rational, though unsuccessful, efforts he made to assist his patients under this calamity, are proofs of his attention, and of the hitherto untameable nature of this singular poison.

“ Let not, however, these difficulties discourage us from observing every case that occurs with attention, and faithfully noting every incident that arises in the progress of the disease: perhaps the united labours of the faculty, Providence permitting, may, at length, discover some effectual remedy.

“ To this Case are subjoined some Remarks on the Canine Madness and Hydrophobia, with a view to assist those who are called in upon these occasions, to perform their duty with satisfaction to themselves, and advantage to their patients.”

Mr.

“ Mr. CHARLES BELLAMY, of Holborn, aged forty years, on the
 “ 14th of February 1774, was bit by a cat, which was killed the same morn-
 “ ing.

“ The day after, viz. February 15th, he took the celebrated Ormskirk medi-
 “ cine, sold by Hill and Berry, in Hill-street, Berkley-square, and conformed
 “ to the directions given by the vender in every respect.

“ A servant-maid, who was bit in the leg by the same cat, just before her
 “ master was bitten, took the same remedy.

“ About the middle of April he complained of a pain in his right knee,
 “ which he supposed was affected with the rheumatism; he had felt the like
 “ pain at times during the last two years, and had procured himself ease by
 “ pumping cold water on the part. On the 7th of June, this complaint in-
 “ creasing, he desired me to attempt something for his relief. I accordingly
 “ sent him a box of pills, two of which were to be taken every night, contain-
 “ ing about one grain of calomel, of camph. ipecac. and *pill. sapon.* two grains
 “ each, and two tea-spoonfuls of Huxham's tincture of the bark in buck-
 “ bean-tea twice a day.

“ After having taken these medicines about six days, he discovered an un-
 “ usual titillation in the *urethra*, a contraction of the *scrotum* and *penis* to a de-
 “ gree of pain, and an emission of *semen* after making water, to which he had
 “ frequent calls.

“ Alarmed at these symptoms, which he attributed to his medicines, he was
 “ desired to discontinue them, and to live as temperately in every respect as
 “ possible.

“ On Thursday the 16th of June, he sent for me in the morning, com-
 “ plained much of having had a restless night, and told me, though he had eat
 “ some bread and butter as usual for his breakfast, yet he found he could not
 “ swallow his tea without difficulty; he attempted it before me, and threw a
 “ little into his mouth, but with the utmost agitation.

“ Recollecting the accident of the bite, and apprehending the most serious
 “ consequences, but without discovering my apprehensions to the patient, I
 “ proposed a physician might be sent for. Dr. Fothergill was mentioned by
 “ the patient. I met the Doctor in a few minutes after, and informed him of
 “ the preceding circumstances, and attended him to the place.

W. FRENCH.”

Theobald's-Road,
 June 20, 1774.

I SAW

I SAW the patient above mentioned the 16th in the morning: he was sitting in his dining-room, without any other appearance of indisposition than a little paleness; his countenance chearful; nothing that discovered uneasiness or anxiety. He recited very distinctly the complaints which he called rheumatic, and which had induced him to apply for help; mentioned his opinion, that his disorder had been increased by the pills, &c. but upon being informed, they could have no such effects, he readily gave up the point. "I have had (says he) a very restless night; my head has been much out of order; I have sweated a great deal, was very faint with it, and have had little or no sleep: I was extremely thirsty in the night, and intended to have regaled myself this morning with a large draught of baum-tea, which stands there ready made; but you shall see the difficulty I am under, and which induces me to ask your assistance." He then took up a tea-cupful of common green tea with milk in it, as he drank it commonly for breakfast, and brought it within a few inches of his lips with great composure: he then threw the liquor into his mouth, and swallowed it with uncommon haste and perturbation. "You see (says he) I can force it down: shall I do this very frequently, or will you allow me to omit it a while?"

It may be proper in this place to mention, that our patient was a person of a good understanding, active, diligent, and sensible, much esteemed for his probity; and during his illness he gave proofs of a capacity and resolution superior to most men in the middle stations of life.

I desired him to forbear the attempt, while it continued to affect him with extreme uneasiness, but to endeavour to get down bread moistened with any liquor he chose as often as possible. The thought pleased him, and he got down bits of bread moistened with wine without much difficulty, whilst I staid, and continued so to do frequently during the day; and this was the only kind of nourishment he got down.

He had naturally a lively, penetrating eye; but his aspect varied frequently and remarkably during our conversation. His pulse was generally about ninety, and rather hard, but changed almost every minute, both in frequency and hardness. His flesh felt moderate, his tongue dry; he made very little urine, and complained much of the contraction of the *scrotum*; the emissions had almost ceased, and his bowels had been sufficiently emptied the preceding morning.

He took not the least notice of his having been bit to me, nor did he appear to have recollected it during the course of his illness.

We forbore, on this account, to inquire after the state of the wounded part, or to say any thing that might lead him to suspect his present complaints arose from that fatal accident.

To gain a little time for reflection on a case so sudden and so dangerous, and that nothing which seemed reasonable to be done might in the mean time be omitted, I ordered six ounces of blood to be taken from the arm; that a scruple of native cinnabar, and half a scruple of musk made into a bolus, might be given every four hours; and that as much nourishment, fruit; or any thing he chose, might be got down, as possible.

The family were apprised of the dangerous situation he was in, and a consultation requested, as early in the evening as might be convenient. Dr. Watson was pitched upon; we met at five in the evening, the 16th, and received the following account:

He had taken two of the boluses, had got down several bits of bread moistened with wine, some strawberries, a few bits of pudding, but had not attempted to drink any liquor. We requested he would then, for our satisfaction, endeavour to swallow a little liquor: he readily assented; it was brought to him; he threw it hastily into his mouth, and swallowed it with difficulty and extreme perturbation; the moment the liquor touched the *gula*, all the muscles concerned in deglutition appearing to be convulsed.

He repeated to Dr. Watson, very intelligibly and fully, the account which he had given me in the morning. His countenance was pale, and he seemed much agitated and distressed; complained of extreme thirst, and of the impossibility of swallowing any liquid. His tongue was white, but did not appear dry. He was perpetually endeavouring, with great efforts, to bring up and discharge the viscid tenacious phlegm, which lined the *fauces*.

The heat of his flesh was moderate; but his pulse was quick, hard, and irregular; strong palpitations of the heart, which he made us feel by pressing our hands to the part.

He was perfectly sensible; and, when his endeavours to discharge the viscid phlegm would allow him to speak, gave us pertinent answers. He had made but little urine since the morning; the dragging, as he called it, of the *scrotum* still continued, and the uneasy sensation and emission.

The blood which was taken away in the morning had some slight appearance of inflammation, the *crassamentum* firm, with slight traces of size, but the *serum* remarkably yellow. No evacuation by stool to-day. Upon the whole, it was evident, that the disorder had increased since morning.

Upon maturely considering this very hazardous state of things, we agreed upon the following process:

To procure a stool or two by means of a clyster:

That he should then be carried to the warm bath, and remain in it so long, and to such a degree of heat, as was most agreeable to himself:

That at his return a clyster should be given of a pint of milk and water, and this to be repeated as often as it could be conveniently administered;

That

That in the last of these clysters a drachm of Dover's powder should be exhibited:

That two drachms of strong mercurial unction should be rubbed by himself on his legs and thighs as soon as he returned from the bath, and that he should endeavour to get down all the sustenance he could.

We saw him early next morning, the 17th, when we received the following account:

The laxative clyster had produced a proper effect.

The warm bath relieved him greatly whilst he was in it, so that for a time, as he expressed it, his sufferings were suspended. They returned, and with more violence, during the night. The clysters had been repeated several times, and the unction applied.

We found he had passed a most restless night, totally without sleep, and in much agitation, not being able to lie still a moment.

His countenance bespoke much distress, though accompanied with endeavours to conceal it; sometimes he was calm, then agitated; talked much, but sensibly. He had now a copious flow of saliva less viscid; his tongue white and moist, but foul. His pulse was very quick, small, hard, and irregular; his hands rather cold than hot. He had made water in the night with less difficulty, and without its usual consequences; the dragging pain, or spasmodic affection of the *cremaster*, was gone off. In general, his strength and faculties seemed less impaired than might have been expected, where so little sustenance had been taken in; and there was constant restlessness, and no sleep.

On considering these circumstances, and observing there was a more copious flow of saliva, the tongue more moist, the thirst less, the spasm of the *cremaster* gone, yet that the difficulty in swallowing was not less, and still no sleep, though his head was clear:

That his pulse continued hard and quick; that there were some appearances of an inflammatory density yesterday; and that he had found relief from the bath, at least a temporary suspension: We agreed,

That he should be bled standing, according as his strength would bear:

That he should be conveyed to the warm bath, and remain in it as long as he found it agreeable to himself:

That a clyster of milk and water should be thrown up at his return from the bath, with a drachm of Dover's powder; and

That half an ounce of mercurial unction should be rubbed on his legs and thighs as soon after as might be done conveniently.

One scruple of *thebaic. extr.* was ordered to be made into twenty pills, three of these to be given when he came out of the bath, and two every hour, till he seemed disposed to sleep.

At five in the evening we visited him again, when he received us with the

utmost transport and joy; and described in very strong terms the pleasure and the benefit he received from the warm bath, and the hopes he now conceived of a speedy recovery.

A vast quantity of viscid phlegm was continually flowing into his mouth, which he was as constantly employed in discharging; for it seemed to have the same effect upon the organs of deglutition, as if he attempted to swallow any other liquor, and gave him extreme uneasiness. To get rid of this defluxion, the moment he felt it in the *fauces*, he exerted a sudden and vehement expiration, as if it was with a design to blow away the moisture so offensive to him, with the utmost force and expedition. This occasioned a sound, which did not seem very remote from the hollow barking of a dog.

When he was not employed in these efforts, he was talking constantly but coherently. His eyes had a particular keenness, and all his motions were quick and vehement. His pulse was also quick, hard, sometimes trembling and irregular. His hands were rather cold and clammy, but the general heat of his body not intemperate.

He told us he had taken a great deal of nourishment during the day. On inquiry, we found it amounted to no more than on the preceding; a few bits of bread moistened with wine, a little pudding, two or three pieces of china orange, which pleased him much. He had taken none of the pills.

Previous to his going into the bath, he desired to be shaved; it was readily assented to, but proved a more troublesome operation than he was aware of. The moment the lather touched his face, he fell back with surprize; but the part being once wetted, he bore the repetition easily; every fresh part that was lathered gave him considerable emotion; the application of the razor had in a degree a similar effect: in short, every new movement about him gave him some fresh alarm, some degree of agitation and anxiety. He took notice of this himself; "but (says he) I am naturally hasty and choleric; and when I am got better of these complaints, I hope you will assist me in correcting it."

Whilst he was in the bath, the person who attended him, without any particular intention, took up some of the warm water in his hand, and poured it on the patient's head and face: this confused him much; he described to us the distress it gave him at the time very emphatically; and added, with much apparent satisfaction, that he had so far conquered his aversion to it, that he had poured water on himself with his own hand in the same manner.

It was in speaking of this affair he mentioned the term *Hydrophobia*; observing, that his complaints resembled it; yet without giving us any reason to apprehend he had the least idea of his actually labouring under this fatal distemper.

He had not slept a moment from the time he was seized with the dread of liquids. He repeatedly expressed the satisfaction he received from the bath, and

and wished to go into it again. We consented, and desired that he might be carried thither again, and to stay in it as long as he chose.

Every new operation now became an extreme difficulty to him; dressing, undressing at the bath, going into the water, which he now did with much in-treaty, putting one foot in, and hastily withdrawing it. He was at length prevailed on to go into it. A recollection of the ease he had enjoyed in it before, aided by a manly resolution that never forsook him, subdued his fears, and he remained in it near half an hour. He was brought home about nine o'clock. He refused to take the pills, and every other medicine. He grew fretful and restless, soon became delirious, but offered no violence.

After remaining in this condition about two hours, the powers of nature sunk, he reclined his head gently on the pillow, and expired at half past twelve.

Endeavours were used to observe the condition of the part that was bit, when he was dressing after bathing, as far as could be done without alarming him; but ineffectually. After death it was examined with attention, but without perceiving the least morbid appearance.

For this account of his last hours, and his behaviour at the bath, I am obliged to my friend, William French, his apothecary, who attended him with the utmost constancy and humanity.

During our attendance, we learned that this accident happened in the following manner:

The servant-maid having occasion to wash, rose earlier than was usual: upon her entering the wash-house, a cat attacked her, and fixed upon her leg. Her screams brought her master to her assistance; he aimed a blow at the cat, but missed it; the cat then seized his leg, but he soon disengaged himself from her; a chairman passing by was called in, who soon killed her.

Both the master and maid took the Ormskirk medicine as speedily as possible, and observed the directions given with it. The master's leg soon healed, and he seems to have thought no more of it. Perhaps fortunately for the girl, her leg did not heal; it grew worse, and baffled the skill of a young surgeon to whom she applied. We were told she afterwards got into one of the city hospitals on this account, and we have no doubt but she is still living. Our endeavours to find her out, and to know in what situation she is, have not yet been successful*.

It is here worth observing, that two persons are bit by a mad cat, at the same time: the first who was bit, and the most severely, escapes; the second loses his life. The wounds of one healed presently; the other became a sore,

* I have since learned that her leg continued long in a sore state, but that she is now perfectly well, Aug. 29, 1774.

notwithstanding

notwithstanding endeavours to the contrary. Both used the same preventive means.

May not then the happy escape of the girl be owing to the fore which followed from the bite? It seems probable; and affords a very forcible argument for enlarging the wounds made by the bite of mad animals, and promoting a discharge from them as long as possible. Perhaps this is the only sure preservative against the direful effects of this malignant venom we are yet acquainted with.

It is with some repugnance we point out the inefficacy of a medicine, which in this country has established a reputation of its being an infallible preservative. Perhaps it has had its use in being so esteemed by the generality; for it is undoubtedly true, that many persons have suffered almost as much as they could have done from the most poisonous bite, by representing to themselves the miseries they were exposed to. A medicine that could powerfully assuage these apprehensions, from a general opinion of its salutary effects, has certainly been beneficial to many; and so have a multitude of other famed prophylactics.

But as this medicine, which has survived the reputation of many others, has in this instance been found to be ineffectual; it seems to be absolutely necessary to apprise the public of the fact, which, as far as one evidence can extend to, is decisive: The same medicine procured by an unexceptionable hand (the apothecary, who urged its being given, from a thorough persuasion of its affording perfect security) from the place authorised to sell it; and given precisely according to the prescriber's directions, to two persons bit by the same animal, and at the same time; the person first bitten escapes, the second dies of the *Hydrophobia*.

Was it not of the last consequence to those who may become the unhappy objects of such applications, to be informed that even this medicine had failed of success, we should not endeavour to bereave them of the comfort which the unfortunate might derive from an opinion that it was infallible; but when there is such evidence to the contrary, it becomes necessary, for the public benefit, to endeavour to remove prejudices that may be fatal to the real safety of individuals.

To inquire farther into the merits of this, or any other preservative against the poisonous bite of mad animals, would take up too much room in your collection. This, however, would be no unprofitable employment for a person of suitable leisure and abilities; and we are not less in doubt about the efficacy of all those remedies which have been urged by the several proposers, as extremely beneficial in the cure of this distemper, even in its last stages. We are confident that divers have been mentioned as being cured of the effects of such bites, who never had one genuine symptom of the disease thence arising.

At

At the same time that we suggest opinions which may tend to destroy that happy confidence which has prevented much suffering to individuals; and whilst we own our apprehensions that none of the celebrated medicines hitherto proposed to the public can safely be confided in, either as prophylacticks or as curatives; we would earnestly recommend one means of preservation, which not only the present instance before us, but extensive experience seems to establish upon a solid foundation; that is, after having washed the part, and cleansed the surface as quickly as possible from the poison, to enlarge the wound immediately by actual cautery, the knife, or any other speedy and effectual method; and to promote the discharge as long as is possible. This being effectually done, affords the surest ground for a proper confidence and security against future mischief.

Two circumstances we take the liberty to suggest, as deserving some attention.

The first is, In case of a bite from a mad animal, to recollect what part was bit, and, if through any, through what kind of covering. A bite through thick garments, or leather, as the teeth of the animal would probably be wiped quite clean from the venom, ought to give less uneasiness than when it happens to the naked skin.

Second, Not to kill the animals, if it can be avoided, till it is past a doubt they were mad. On both these circumstances may depend considerable satisfaction to the person bit; and it may not be improper to add, that there is abundant reason to suspect that very few of those who are bit by mad animals are liable to be affected by the *Hydrophobia*, or other fatal effects of the bite. This, however, is not intended to abate the care that is due on these occasions, but as a proper antidote to that despondency which is often the consequence of this accident.

In respect to our conduct in the present case, it is submitted to your censure. We acknowledge we despaired of our patient's recovery. If we kept partly in the track our predecessors had recommended, as circumstances admitted, so far we were justified: but we went further, we pursued such means as we thought most likely to have one of these desirable effects; to keep up the forces of life; by conveying into the habit every kind of nourishment by the passages left open, *viz.* the bowels and the skin, and thereby enabling Nature to support the contest longer; or else, to calm and relax, and render the conflict at last less terrible to the assistants, and less painful to the sufferer.

We thought ourselves justified, from considering the state of the pulse, and other circumstances, to take away some blood, and repeatedly. That we might not reduce the strength beyond what appeared necessary, we chose to order it to be taken from the patient standing; because, we were satisfied, he could not lose so much blood in that situation as would be detrimental without fainting; much sooner than he would have done in a sitting or decumbent posture.

ADDITIONAL.

ADDITIONAL DIRECTIONS

FOR THE TREATMENT OF

PERSONS BIT BY MAD ANIMALS.

1st, **P**REVENT the animal supposed to be mad from being killed, if possible, till it is past a doubt, that by refusing sustenance in any form, and other circumstances usually accompanying this state, it is evident the creature is mad. Let all possible care, however, be taken, in the mean time, that he be confined in such a manner as to injure no other animal. This attention, though it does not contribute to the cure, it may to the comfort of the patient.

2d, Observe whether the wound is made through any covering, and of what kind; as much satisfaction may be afforded to the patient, if the wound was made through thick clothing or leather.

3d, Remove the flayed cloths as soon as possible, and wash the wounded or bruised parts with water; in which if a little salt is dissolved, it can do no harm.

4th, Consider in what manner the wounded part may be treated, so as to keep it discharging as long as possible. If in a fleshy part, and the patient will submit to it, excision of the wounded part is the best security from danger.

Where this operation cannot be admitted, the actual cautery, the lunar caustic, a vesicatory, may be applied with advantage, according as the part, the age of the patient, and the situation may direct. In every case let the wound be kept open as long as it can be done conveniently. A small quantity of gunpowder, a little moistened, spread upon the part, if only scratched by the teeth of the animal, or put into the wound if large enough to receive but a little, and then kindled with a lighted paper, will, perhaps, as suddenly, as easily, yet safely enlarge the wound, as can be effected by any other means, and occasion such a kind of wound as will not instantly be closed.

The choice of these several methods must be left to the operator. Wounds in the hands, feet, or face, will not admit of the injured parts being cut out so safely, as may be done on the muscular parts of the arms and legs.

The time, likewise, of keeping the wounds open, must in some respect depend on their situation. To keep open a running sore for a long time on the face and hands, would be difficult, and productive of various inconveniences.

Of all the prophylactics yet offered to the public, experience has proved there is not one to be depended on; it may, perhaps, be worth while to consider in this place the means of prevention principally in vogue.

When a person is bit by a mad animal, the first thing usually thought of is, Sea Bathing. The party is sent to some bathing-place, where there are commonly persons employed in this business, who, by keeping the patient long under water, and dipping him repeatedly, reduce him almost to a state of suffocation. Some of the salt water gets into the *trachea*, more into the stomach, and proves sometimes a brisk purgative. Here the process ends, and the patient is deemed to be secure from any future accidents on account of the bite.

The reader will have observed in the preceding case, that the whole of this process is founded on mistake; and it is certain that divers who have undergone the utmost severity of this discipline, have died of the *Hydrophobia*.

The *Pulvis Antilyffus* of Dr. Mead has had no better success, and is now almost wholly forgot.

No medicine, as a preventive, seems to have maintained its credit so long as that called the Ormskirk remedy. It is called so from the name of a town in Lancashire, near which the gentleman lived in whose family the secret has been long preserved, and from thence distributed with such apparent success, as to be generally deemed infallible for preventing the Canine Madness. I am sorry there are more instances to the contrary, than that which is related in the preceding account.

The Tonquin medicine, composed of Musk and Cinnabar, has been equally unsuccessful. All these different medicines have been employed by practitioners, and all of them have failed.

Dr. James, who had great credit amongst sportsmen, and great opportunities of observation, thought Turbith emetics and mercurials certain antidotes; but these, likewise, have had the same fate with others; they have been neglected, not because their promoters were no more, but because they were found to be insufficient.

His practice, however, and some other publications, turned the attention of physicians to mercurials, and they have of late been considered as the most certain antidotes to the Canine Madness: we gave them a short, though ineffectual trial. Others have been more bold, but not more successful. There

is too much reason to distrust their efficacy in preventing, or curing the *Hydrophobia*.

Notwithstanding these discouragements, there is one thing which ought to afford the sufferers some consolation; which is, that it appears very evident, that if no means of prevention were used, many of those who are bit by mad animals, would never be liable to the fatal consequences of Canine Madness.

On the other hand, it is more than probable, from divers accounts which have been published, that persons of timid and anxious dispositions, who have been bit by some animal, even without any proof of its being mad, have imagined themselves affected with every symptom of Canine Madness they have heard of, described their complaints as such, were treated accordingly, and cured of a disease that had no real existence.

It is, therefore, a matter of no small moment to the practitioner, as well as to the patient, to have all these circumstances in contemplation; and whilst the former is neglecting no means, which either the experience of others, or his own judgment, have induced him to think are conducive to security, the patient should be confirmed, by every just and reasonable argument, in an opinion of their efficacy.

After taking this short view of the means recommended to us as preservatives against the fatal effects of this poisonous bite, and having seen too much reason to conclude them ineffectual, it is with regret I acknowledge myself unacquainted with any method of treating the *Hydrophobia* more successfully, or even of lessening the distress with which it is accompanied farther than has been already proposed.

The first symptom of the *Hydrophobia*, which is a dread of all liquids, cuts off in an instant a great part of the means of relief by internal remedies. It is with great difficulty that medicines of any kind, or in any form, after a day or two have elapsed, can be got down.

The case which Dr. Watson and myself attended, concluded, like all the instances of the genuine *Hydrophobia* on record, fatally. Had we the same ground to go over again, for my own part, I confess I know not of a more reasonable plan. I would not, however, discourage others from pursuing their own ideas: some fortunate event may, at length, make us better acquainted with the nature of this poison, and point out a specific remedy.

Should another accident of the like nature occur, until we are directed to a more rational and successful method, I should still be inclined to pursue a plan similar to that which we laid down in our treatment of the case before described. Its basis was, to prevent the loss of strength as much as possible, in order to gain time, and afford the best chance of relieving the patient. In this disease we are early precluded from the usual means of effecting this purpose,

pose, as the patient soon finds himself incapable of swallowing any kind of nutriment in a proper quantity, as hath been already mentioned.

Two methods, however, still remain of assisting the patient, though imperfectly. First, by clysters. By this means, a large quantity of aliment may be supplied. Broth, milk, eggs, in various shapes, may be exhibited in small quantities that they may be retained, whilst larger promote their own rejection.

Secondly, by baths. It is probable that by this method large supplies of fluids may be introduced into the habit, by means of the absorbent vessels, placed on the surface of the body every where.

Whether any useful additions can be made to warm water, can be determined only by experience. Perhaps broth moderately salted, with the addition of aromatic herbs, might be used alternately with warm water; to which may be added a handful or two of that composition sold by the perfumers under the name of *Pot Pourrie*, and a proportion of Bay Salt, sufficient to make it nearly equal to salt water, or about twelve ounces to every four gallons.

Whatever bath is made choice of, the patient should continue in it as long as it is easy to him, and in a degree of heat that he bears with pleasure, perhaps from 80 to 86 degrees of Fahrenheit's thermometer. The patient may be wiped dry, put into a warm bed, a clyster given of half a pint of broth, with a raw egg beat up in it; and both this and bathing be most industriously repeated.

From the trials made with opium, it does not appear, that this drug has had any beneficial effects. It is difficult to get it down in any quantity at the time we most want it, in any shape. By clysters it may be given, had we any reason to conclude it would be beneficial. In regard to its external application, I am persuaded from experiments, that if the skin is whole, opium never produces any soporific effects.

Applied as a plaster, or a cataplasm, it will produce the same effect as any similar plastic semi-resinous substance, and no more. In tincture, it will act as spirit would act, impregnated with such a kind of substance, void of all anodyne quality, and in no other way. Half an ounce of opium softened into the form of a poultice, and applied to the belly of a healthy new-born infant, did not produce the least anodyne effect. The like trial has been made with Mithridate, Venice Treacle, and Laudanum, and with the like result. In a disease so swift in its progress, it is of consequence to know what *will not be efficacious*. It compels us to look around for other auxiliaries.

If mercurials can be of use, it would seem that the steam of cinnabar would be worth a trial. By this means it would be practicable to impregnate the air in which the patient breathes, should he be incapable of admitting the fume

in the usual mode into the *fauces*, so as to produce the effects of mercury on the parts affected the most speedily.

When the patient comes out of the warm bath, the mercurial ointment may be applied liberally. I am afraid it will be found as ineffectual as the other means hitherto made use of; but in cases like this, it is better to try a medicine of whose efficacy there may be some doubt, than none at all.

In respect to bleeding, I have only one thing to observe. If the patient is bled standing, till he shews a disposition to faint, it may be done without hazard; it may abate a little of that inflammatory disposition, which is the consequence of continued irritation.

It would, perhaps, at length contribute to remove this uncertainty, if those who are applied to on these interesting emergencies, would consider themselves as obliged by the honour of their profession, and the ties of humanity, to note with all possible precision and impartiality every incident in the progress of this disease; and, whether they pursue the hints here suggested, or take up more rational ones from their own store, would communicate the result to the public. By this method the field of conjecture would be contracted, and our successors directed to new objects of investigation. The result would be not less honourable to those who engage in the search, than beneficial to mankind in general.

CASE OF AN ANGINA PECTORIS, WITH REMARKS*.

IN the autumn of 1773, I visited R. M. Esq; a gentleman aged about fifty-eight, of a size above the middling, his complexion rather fair and sanguine than swarthy, plump and full, disposed to corpulency, but not so as to render him unfit for any kind of exercise.

For the most part he had enjoyed very good health during the greatest part of his life, which was active, regular in common, temperate as to liquors, a good appetite; and accustomed to a plain but plentiful table, as I was informed by my friend and neighbour W. Fowle, who attended him as his apothecary, and gave me the following account :

“ He was seized about the year 1770 with a remarkable giddiness, which was at times extremely troublesome to him, and never left him entirely, though the intervals of the severer attacks were frequently pretty long. For this complaint he had at first a blister on his head, which was kept open several months; and afterwards had one upon his back, which was also kept open a good while. He took at different times valerian, with salt of hartshorn, *lac ammoniacum*, decoction of the bark with valerian; but, excepting the blisters, nothing appeared to give him any material relief.

“ In July 1773. he was attacked with a spasm in the breast; which at first affected him only when he used exercise, and chiefly when he walked up hill. I desired him to apply a small blister to his stomach; and to take a quarter of a pint of buckbean-tea twice a day. The blister gave him great pain, and he was obliged to let it heal very soon. The buckbean-tea did him no good. I then gave him the gum-pill and guaiacum, mixed up with *Bals. Peruv.* He took the pills morning and evening, and washed them down with the camphorated julep, to which was added some simple tincture of valerian. These me-

* Medical Observations and Inquiries, vol. v. p. 233. ann. 1774.

dicines at first appeared to do him some good; but the disease shortly after returned with greater violence, when you was consulted; and he died the 10th of May following."

I soon found there was too much reason to suspect this disease was of that kind, which is so fully and judiciously described by Dr. Heberden, in the second volume of the Medical Transactions; a disease which I had too often met with as it terminated for the most part fatally, and without its being in my power in one single instance to learn from dissection the seat of it, or to acquire any satisfactory information of its nature, from the most attentive recollection of the several symptoms.

It was in the evening when I saw the patient; and at that time he was free from any complaint, as he sat still. His heat was moderate; his pulse sufficiently full, but for the most part irregular; his appetite good; and the discharges as they ought to be, only rather disposed to costiveness.

He complained that his giddiness was still troublesome at times; but that a disorder, which frequently affected his breast, especially on motion, and occasioned much difficulty in breathing, gave him the greatest uneasiness.

That in walking, if he either went up the slightest acclivity, or endeavoured to walk faster than a certain pace; or if the wind was high, and met him as he walked even moderately; he was obliged to stop. He described it as a kind of stricture surrounding his chest, principally in a line with the *mammæ*, in such a manner as to render it impossible to take a step further without the hazard of immediate suffocation; a sharp pungent pain most particularly affecting the parts under the left breast, extending itself upwards on that side, and down the inner part of the left arm to the elbow. These symptoms, on turning from the wind, and standing still a few seconds, went off, leaving only the remembrance of their severity, and a caution to proceed more deliberately.

The weather seemed to have some little effect upon him; a sharp keen air, or a high wind, or an extreme of any kind, affecting him very sensibly.

Going up stairs, and getting into bed, were great difficulties to him: nor did the stricture always cease upon lying, or rather sitting down in bed; it would sometimes continue to harass him for an hour or two, and frequently returned about one or two o'clock in the morning, or at day-break.

He had felt occasionally a smart and sudden fit of pain in one foot, with some small swelling, apparently of the gouty kind. His age, his manner of living, his general habit, seemed to favour an opinion, that his disorder might partake of this malady. He had found too, that eructations often terminated his pains; and that nothing facilitated these discharges so much as simple peppermint-water: it was always by him in the night, and gave him ease even when a reasonable dose of a paregoric had been given without benefit.

Willing to hope that this case might partake considerably of a gouty nature,

and consequently that there was some chance of relieving it, I proposed such a plan, both of diet and medicine, as might tend to enable the constitution either to discharge the gouty matter through the emunctories, or to throw it upon the extremities: I advised him to abstain from every thing heating, not however to drink much less wine than usual, and to observe caution in respect to quantity of proper food. Sometimes the disorder seemed to be less severe; but no lasting advantages were gained: at length recourse was had to an anodyne at night, which was repeated either in the night, or towards morning, as the constrictive exacerbations required. Twenty-five drops of *tinct. theb.* with a like quantity of *vin. antim.* at night, and ten drops of the same tincture in a little draught early in the morning, procured for a considerable time the appearance of much benefit. This however was not lasting; upon any little exertion of muscular force, the disorder still discovered itself, and with as much violence as at first.

With a view to assist his general health, which seemed now to be much affected by the continuance of these complaints, he drank the Bath-water at Bath several weeks. Some more pain was observed in one foot whilst at Bath, and a swelling sufficient to shew it was the gout. His health was somewhat improved by the journey and the waters; but they did not alleviate the original pain in his breast, which sometimes came so suddenly and violently, towards the mornings especially, as to alarm those about him with fears of his immediate death, and which at length happened very suddenly, in the morning of the 10th of May.

The family condescended to have him opened, which was performed by my ingenious friends the Langleys, father and son, judicious surgeons in the neighbourhood; from whom I received the following account, not being able, through some prior engagements, to be present at the dissection.

“ On inspecting the body of R. M. Esq; the parts were as follows:

In the THORAX.---The *mediastinum* much loaded with fat; a quantity of water under the lungs, about a quart on each side, thin and transparent, nearly resembling urine. The lungs in good condition, except on the upper part of the right side there was an adhesion to the *pleura*, of about an inch, but without inflammation. The *pericardium*, on the outside, loaded with a large quantity of fatty fat, but more so on the lower side, next the diaphragm. The lymph in the inside about the usual quantity. The heart of the usual size. The auricles and ventricles with all the vessels and valves perfect; not the least ossification or appearance of disease, except on the outward muscular part, near the *apex*, a small white spot, as big as a sixpence, resembling a cicatrix.

In the ABDOMEN.---The *peritoneum* perfect.

The *omentum* much enlarged and thickened, at least six times its natural thickness. The fat of a yellow appearance, and much firmer than usual, very heavy, and the lower part adhering to the *peritoneum*.

The

The STOMACH.---In the inner coat a good deal of inflammation, particularly about the valve in the *pylorus*.

The LIVER;---rather more florid without than usual; on the back convex part of it was an unusual prominence, near the size of an egg; but on opening it, no appearance of disease.

The GALL-BLADDER;---full, and much distended, but no stones."

The first case apparently of this nature that occurred to me, was above twenty years ago; and the person is now, or lately was, living, and in good health, not having of late years, so far as I have heard, been attacked with this complaint. He was at that time about thirty years of age, and the youngest subject I have ever seen affected with this disorder, which is so strongly marked, as cannot easily be mistaken for any other.

He was rather of a low stature than tall, a short neck, strong, temperate, and accustomed to regular, but not violent, exercise. Without any perceptible cause, he found himself sometimes obliged to stop suddenly, if he was either walking up hill, or a little faster than ordinary, or if he was riding a very brisk trot. Moderate motion of any kind did not affect him. Finding the disease increasing, he applied to me for assistance. He lodged at a relation's in Cannon-street; from the end of it in Gracechurch-street to White Hart Court, where I then lived, is a very gentle ascent; but in that short space he was obliged to stand still several times, to recover from a kind of stricture about his chest, as he described it, that threatened him with death, if he had been forced to go forward. He had just dined, and this had added to his difficulty, having himself observed, that he suffered less in motion when his stomach was empty. From the description of the pain, its course, which was across the breast, and down both arms to the elbows, I could not forbear suspecting the sixth pair of nerves and their numerous connections were the seat of this disease; that some irritating cause, excited by motion, affected them; and that the parts they were principally distributed to, suffered in consequence. The lungs did not appear to be affected; no preceding cough or symptoms of inflammation, no catarrhal defluxion, no appearance of a dropsy of the thorax, nor any fugitive acrimony, that seemed capable of producing such sensations, had taken place.

I recommended a sparing diet, to keep the bowels open, to use moderate exercise on horseback; but not to take long or fatiguing walks. He took some pills of soap, *pil. gummos. cinnab. nativ.* and a light chalybeate bitter for some months. After this, he went to Bath several successive seasons, and acquired his usual health.

This is the only instance that has occurred to me of a perfect recovery from this obscure, and too often fatal malady. Some have been much relieved for a considerable

a considerable time, and I have heard nothing farther concerning them; but for the most part, if the disease attacks them late in life, the prognostic is unfavourable.

Perhaps it will be difficult to account for the symptoms attending this disease satisfactorily, from the appearances on dissection. In a case not altogether dissimilar in that distinguishing character, the constriction which the thorax suffers upon accelerated motion, and where there was reason to suppose, from the symptoms, that most of the thoracic and abdominal viscera were in a morbid state, nothing of this kind appeared on dissection but a small ossification in one of the mitral valves of the heart, some additional quantity of moisture in the *pericardium*, some in the cavity of the *thorax*, and of the *abdomen*; but the whole surface of the body was drenched, as it were in water, a general *anasarca* covering both the trunk and limbs, with an utter inability to move without feeling a very sharp stricture about the *thorax*.

This circumstance induced me to request the gentlemen, who opened the body, to attend to the condition of the heart, with all possible accuracy; and it appears from the preceding account, that nothing preternatural was therein observed, except, on the outward muscular part near the *apex*, a small white spot as big as a sixpence, resembling a cicatrix.

Another circumstance likewise induced me to inquire more particularly after the condition of the heart, which is, that I have very seldom met with this disease, but it was attended with an irregular and intermittent pulse, not only during the exacerbations, but often when the patient was free from pain and at rest.

No doubt, as there are no two human bodies precisely alike, so there will be a great diversity of symptoms; but there is one in this singular distemper, that, so far as I have seen, always marks it distinctly, which is, that sharp constrictive pain across the breast, which always supervenes a certain degree of muscular motion, or whatever agitates the nervous system.

For the most part, the patient can walk a certain pace; if he exceeds this, he is stopped: if he rides on horseback, it is the same; he can bear the horse to walk, or trot; but if he quickens this motion beyond a certain point, he is obliged to stop. This is a constant attendant of all the cases I have seen.

If we consider the appearances of the present case on dissection, we may perceive there are three which are evidently preternatural:

1. The quantity of fluid in the *thorax*;
2. The unusual quantity of fat on the *mediastinum*, the *pericardium*, and *omentum*; and,
3. The scar-like appearance on the heart. The inflammatory appearance in the stomach, the little protuberance on the liver, do not amount to any thing like causes productive of such effects.

The

The consequences of the increased quantity of a watery fluid and fat in the breast, would doubtless be a more laborious breathing, from the lungs being confined within narrower bounds; but as these are permanent causes, the effects would be uniform.

It is very probable likewise, that a heavy pendulous *omentum*, so much increased by fat, would affect the action of the diaphragm very considerably, especially in an upright and decumbent posture, and would sometimes impede, sometimes accelerate the motion of the blood through the heart and lungs considerably.

This preternatural fulness of the *thorax* and appendage to the diaphragm, though they assist us in part to account for the disease, yet seem not to be the only causes of this distemper. Time and future opportunities must inform us of the rest.

However, the facts discovered on the dissection of this body, evidently suggest to us a nearer approach to reasonable indications of cure. On reviewing several of these cases which have fallen under my observation, I think they have generally attended persons who were disposed to be corpulent; it is therefore not unreasonable to suppose, that a part of their disorder has arisen from a deposition of fatty matter in some parts of the *thorax*, which, by hindering the expansion of the lungs, interrupting the natural free action of the heart, and perhaps by pressing too much on some branches of nerves, distributed to these parts for the most necessary purposes of life, if they are not the principal, yet are they among the causes of this disease. The collection of water in the *thorax*, contributes to the same end; and it is not improbable, but that in future dissections these three preternatural appearances will be found: the substance of the heart itself affected; water in the *thorax*; and an increase of fat both in the *thorax* and *abdomen*.

In attempting to cure this disease, therefore, it would seem not an unreasonable plan, to endeavour to increase the thinner secretions, by the several means employed for this purpose, of the urine especially:

And to prevent the accumulation of fat. This last may be a difficult task, and requires great circumspection, considering the time of life to which this disease is most peculiar.

The case which I first saw, was in a person of that time of life, which would have admitted of such a regimen as most commonly reduces the very corpulent to a competent size. Past the meridian of life, to conquer this tendency, might be both difficult and hazardous. An exact temperance in diet and in liquors, seems absolutely necessary towards the cure of this disease, not so far as to weaken, but so as to cut off all superfluity of nourishment, as the redundancy would most probably increase the distemper.

A strict

A strict vegetable diet reduces exuberant fat more certainly than any other means I know. A case or two of this kind may not perhaps be wholly foreign to our subject.

A country tradesman, aged about thirty, of a short stature, and naturally of a fresh sanguine complexion, and very fat, applied to me for assistance. He complained of perpetual drowsiness and inactivity. His countenance was almost livid; and such a degree of somnolency attended him, that he could scarce keep awake whilst he described his situation. In other respects he was well.

I advised him immediately to quit all animal food, to live solely on vegetables, and every thing prepared from them; and allowed him a glass of wine or a little beer occasionally, but chiefly to confine himself to water. He pursued the plan very scrupulously, lost his redundant fat, and grew active as usual in about six months. I recommended a perseverance for a few months longer; then to allow himself light animal food once or twice a week, and gradually to fall into his usual way of living. He grew well, and continued so.

A young unmarried woman, about twenty-three years of age, of a low stature, and very fat, applied to me for assistance in a great difficulty of breathing, somnolency, and incapacity for any exercise. It was a hardship to be obliged to go up stairs, and at last to cross the floor of her apartment.

It seemed to me that mere obesity was her principal malady: indeed she had no other complaint but such as apparently might be accounted for from this supposition. She was ordered to pursue a vegetable diet, and in the summer to drink the waters at Scarborough. She conformed to these directions, became more agile, less sleepy, less averse to exercise. She walked up the steps at Scarborough from the spaw, a task of no little difficulty to people much less encumbered. I urged a continuance of the same diet: she was dissuaded from it by her friends, and died of fat in the twenty-seventh year of her age. She left permission with her sister, to be opened, if it was desired; the case was too singular to be neglected: all the *viscera* were perfectly sound, but larded with fat beyond apprehension. In dividing the external teguments, we cut through $2\frac{1}{2}$ inches of fat. She died suddenly.

Some instances of a similar nature, in which a vegetable diet has safely contributed to reduce immoderate corpulency, induces me to think that a prudent trial in the case I am treating of would be adviseable. Perhaps a reasonable use of wine, not a generous one, should here be allowed, lest the strength should be diminished too much in proportion; and if the power of absorption should by this means fail, we may probably lose more ground, by the increase of the *serosa colluvies* in the cavity of the *thorax*, than what we gain by subtracting the fat.

All the means of increasing the thinner secretions, are evidently pointed out as necessary, from this dissection; and if to these we join small doses of chalybeates, or other medicines, and an abstinence from animal food, so far as the patient's health, situation, and manner of life will admit of it, we are perhaps rendering all the reasonable assistance we can, till future discoveries make us better acquainted with the real causes of this singular distemper.

FURTHER

FURTHER ACCOUNT
OF THE
ANGINA PECTORIS*.

SINCE my former paper on this subject was delivered to the Society, I have had another opportunity of being informed by dissection of some circumstances relative to this disease, which are here submitted to your consideration.

H. R. Esq. aged 63, a gentleman rather inclined to corpulency, but active, and of a very irritable habit, middling stature, and fresh complexion, employed in affairs that often required attention and confinement, writing especially, complained to me three or four years before his death, that he often found a difficulty, or rather an incapacity to walk up a moderate ascent, especially if he attempted to do it hastily. I soon perceived that this obscure disease, which had hitherto for the most part baffled all my endeavours to remove it, was taking place. I advised great temperance and moderation in diet, in drinking, and application; to ride frequently, pass his summers in the country, to shun every thing that would agitate his spirits, or depress them: a gentle laxative medicine, and stomach bitter, to be continued for a fortnight, and occasionally to be repeated, promoted his general health; and his own care contributed greatly to prevent the increase of this malady. In the summer of 1774, he spent a few weeks at Buxton, where he bathed and drank the water, and returned to town in better health than he had enjoyed some years before. Being much disposed to flatulency, he now and then took a warm cardiac draught, which he found relieved him, and pretty often some aloetic pills, to prevent costiveness; but pursued no other plan of medicine, contenting himself with observing, and with some degree of attention, the general regulations I had prescribed to him; and though it did not appear that much ground was hereby

* From the Medical Observations and Inquiries, vol. v. p. 252. an. 1774.

gained,

gained, the same constriction returning if he attempted any exercise beyond a certain point, which his own experience had taught him, yet he perceived no increase of the disease. He occasionally consulted me, but rather with a view to be confirmed in the plan proposed to him, than with a hope of obtaining effectual relief, as he was very apprehensive that he laboured under the disease which Dr. Heberden had so fully described.

On the 13th of March 1775, in the evening, in a sudden and violent transport of anger, he fell down and expired immediately. His family were prevailed upon to allow the body to be opened, which was done the next day, by that very skilful and accurate anatomist, John Hunter, F. R. S. whose account is as follows:

The Appearances upon opening the Body of H. R. Esquire.

“ The blood had settled very generally on the skin, appearing in dark purple spots.

In opening the chest, I found the cartilages of the ribs very much ossified.

In the cavity of the chest I found a full quart of bloody serum.

The lungs were to all appearance sound.

The heart to external appearance was also sound; but, upon examination, I found that its substance was paler than common, more of a ligamentous consistence, and in many parts of the left ventricle it was become almost white and hard, having just the appearance of a beginning ossification.

The *valvulae mitrales* had a vast number of such appearances in them, and were less pliant than in a natural state; but did not appear to be unfit for use.

The semilunar valves of the aorta were thicker than common, but very readily filled the area of the artery.

The aorta had several small ossifications on it, and several white parts, which are generally the beginnings of ossifications, and which were similar to those found in the heart and *valves*.

The two coronary arteries, from their origin to many of their ramifications upon the heart, were become one piece of bone.

The abdominal *viscera* appeared sound, excepting a few small stones in the gall-bladder.

On opening the skull, I found it very thick in many parts. Upon the forepart of the falciform ligament was a considerable ossification, which lay between the anterior parts of the two hemispheres of the brain.

The substance of the brain appeared to be very sound.

There was rather more water in the ventricles than is common at that age; and in general, there was more water about the brain than is usually found.

The plexus-choroides had several pretty large hydatids in them, some as large as a pea.

The internal carotid and basilar artery were beginning to ossify.

There was rather more blood about the brain than usual; but perhaps not more than what is common to those who may be said to die in health.

The blood had not in the least coagulated in any part of the body, nor did it coagulate upon being exposed, which is another cause for the appearance of more blood than usual, and also perhaps for its settling so much on the skin."

This very accurate dissection throws much light on the nature of the disease; and though perhaps it may not assist us in curing it, yet will enable physicians to give such assistance and advice, as may contribute much to the cure of such as are afflicted with this malady, and promote the continuance of their existence.

The state of the parts about the heart fully shews, that under such circumstances it is impossible to bear with impunity the effects of sudden and violent agitations, whether they arise from gusts of passion, or suddenly accelerated muscular motion.

To propose such a kind of diet as may be the most likely to prevent such irritability; to recommend likewise attention to quantity; to be particularly abstemious in respect to every thing heating, spices, spirits, wines, and all fermented liquors; to guard most scrupulously against passion, or any vehement emotions; and to make use of all the usual means of establishing and preserving general health; to mitigate excesses of irritability, by anodynes; or pains, if they quicken the circulation; to disperse flatulencies when they distend the stomach, by moderate doses of carminatives, amongst which, perhaps, simple peppermint-water may be one of the safest; will perhaps be the means of continuing many a valuable life to his family.

And it is not improbable, but that on the first appearance of this stricture, especially in an age not too far advanced, the plan proposed might greatly retard the progress of this disorder, by assisting to restrain excesses of passion and anxiety, which perhaps contribute more to the increase of this disease, than a combination of all the other causes.

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OBSERVATIONS ON DISORDERS

TO WHICH

PAINTERS in WATER-COLOURS are exposed*.

To the Medical Society.

Gentlemen,

I Have met with divers instances of persons employed in painting with water-colours, who have been violently afflicted with that disease, which is so generally known by the name of *colica Piætonum*, or the dry belly-ach; and who have been seized with that train of symptoms which usually attends this disease, and even with that species of *paralysis* which is often the companion of the most violent and advanced stages of it.

As some of the first cases that occurred to me happened in autumn, I attributed them to the usual effects of the season; a disposition to bilious disorders in every degree.

Reflecting on these cases, I found that several of the instances I had met with, who were so affected, both men and women, employed themselves in painting with water-colours; and were likewise studious, and eminent in the respective branches of their profession.

This led me to consider their occupation more attentively, in order to discover, if possible, the cause of these complaints, and the means of preventing or curing them with more certainty and expedition.

The pigments they make use of are, for the most part, prepared from minerals, and many of them of a poisonous nature: white lead, red lead, vermilion, verdigrise, orpiment, calcined smelts, and other substances of a deleterious kind, form the basis of most of their colours.

It is not an unusual thing, nay, it is too frequently the practice of many of

* Medical Observations and Inquiries, vol. v. p. 394. an. 1775.

these artists, whilst they are studying their subject, to have the point of the pencil between their lips, and whilst they are fashioning it to their purpose, are insensibly swallowing, though in a slow unheeded manner, the noxious particles of mineral poisons, whose effects will be proportioned to the quantity thus insensibly taken in, and the delicacy of the constitution. It is seldom that the robust apply themselves to this sedentary occupation.

A young ingenious female artist, about 19 years of age, had frequent attacks of this disease. She studied much, used very little exercise, and by these means became more disposed to suffer by this unheeded poison.

At length she had a violent putrid fever, attended with the most singular appearances I ever met with; one of which was, a kind of *desipientia* that continued for weeks after the fever left her, with total loss of speech; inasmuch that when she had recovered her faculties so far as to know her wants, she was long unable to express them but by writing. To this was added a most exquisite pain in the soles of her feet, for many weeks, which prevented all exercise, and thereby retarded her recovery.

At length she grew better, sat down to her favourite employment, and was frequently seized with a violent bilious colic, with its usual consequences. Emetics, purgatives, and the common process in these cases, removed these complaints; but her hands grew feeble;---she became irregular, leucophlegmatic, and unable to pursue the employment she was devoted to. At length, however, she recovered a moderate share of health, and being made sensible of the probable cause of her indisposition, she scrupulously avoids the practice that brought on these complaints, and enjoys better health.

This and some other instances that happened about the same time, to persons in the same occupation, induced me to think these disorders were principally owing to their swallowing, without thinking of the consequence, so much of the deleterious colours, as those unavoidably must do who accustom themselves to fashion the point of the pencil between their lips.

In consequence of these reflections, I have desired such artists as I have been acquainted with, to find some other means of performing this operation; as the colours, being many of them of a poisonous quality, would, sooner or later, subject them to very grievous sufferings, and perhaps, in time, to the total loss of the use of their hands.

I do not presume to propose any better method of curing this disease, than that which has been proposed by the writers on the *colica Pictonum*. But when the vomitings are abated, copious discharges by stool procured, and the functions of all the bowels, in degree, restored to their usual state; I know of nothing that so effectually contributes to restore the use of the limbs, when impaired by these causes, as the liberal and constant use of the *tinctura guaicinae volatilis*. It may be given to such a quantity as may be sufficient to keep the

belly gently open, mixed with a little common sugar or honey, and then diluted with any weaker mucilaginous liquor, as thin gruel, or barley-water, or marsh-mallow-tea.

Being fully convinced that many persons have suffered, and are still liable to suffer, from this unsuspected cause, I need not suggest to you, that could these ingenious artists be, by any means, apprized of the danger they are exposed to by such practices, it might save them much trouble and expence, and continue them longer in a condition to serve themselves, their families, and the public.

I mentioned that the patient, whose case I briefly described, suffered greatly from a severe and unremitting pain in the soles of her feet, after the fever had left her. I thought myself happy that I had directed no applications to be made to the feet, neither blisters, warm plasters, nor cataplasms, though the nature of her complaints often induced me to consider how far they might afford a prospect of relief. I should perhaps have attributed her sufferings to these applications.

I almost suspect they were the effects of some poisonous quality of the paint, and especially of the arsenical kind, from the following circumstance:

When that celebrated medicine called *Plunket's* was in use, about 15 or 20 years ago, for the extirpation of cancers, I met with the like pains in the feet, where that medicine had been plentifully and repeatedly applied for the extirpation of cancerous tumours; and it was generally apprehended that white arsenic was a principal ingredient in this composition. It is certain, however, that many of the pigments are of an arsenical origin, that others are preparations of lead and copper, all of them noxious in a high degree, and never fail to produce the worst of consequences, when they are received into the human body for a long time together, even in the minutest quantities.

There is indeed a pain in the soles of the feet, which I do not recollect ever to have seen remarked by any writer. It is almost the constant companion of dram-drinking, and in women especially. Having met with it in too many instances of this kind, it affords me but too just apprehensions of the nature of the malady, when a constant burning heat in the soles of the feet makes a part of the patient's complaints.

It is not improbable but that many diseases affecting very young children, may be ascribed to a cause which I am obliged to Dr. Heberden for suggesting to me. Many of their play-things are coated with paint, a great part whereof is white lead, covered with a slight varnish. Children are seldom content with holding these painted poisonous toys in their hands; they often thrust them into their mouths, and the varnish being easily worn off, most probably so much of the paint is swallowed as to become the source of complaints, which prove the more obstinate, as the cause is, in general, so little suspected.

Accidentally mentioning this subject to Baron Dimisdale, he informed me of

a case that had fallen under his own notice, and of which, at my request, he drew up the following description :

“ In November last I was called to a boy of about eight years old, small of his age, but naturally lively and healthy. The account I received was, that he had for some time past been evidently declining in his health, complaining of pains in his belly and stomach. His apothecary had treated it as a worm case, and had given him a variety of evacuating medicines, particularly of the mercurial kind, without gaining any ground ; on the contrary, the boy grew indolent and feeble, and had an obstinate costiveness : on being desired to use exercise, he complained of weakness and pain in his knees and ankles ; his appetite, which used to be very keen, was almost gone ; and his whole appearance was languid and declining ; his belly was rather large and tense, but not to a very remarkable degree.

“ Particular inquiry was made respecting his diet ; but nothing appeared, in this respect, improper or unusual.

“ Considering it, therefore, as an obstinate obstruction in the bowels, a variety of medicines were tried, to keep the body moderately lax and open ; but no ground was gained by these means ; on the contrary, he declined visibly, though slowly.

“ Whilst he was in this state of danger and uncertainty, a relation of the family asked me, whether he might not be injured by sucking the pencils with which he painted. I instantly took the alarm, and, on enquiry, found that he had been extremely fond of colouring little pictures, and, for that purpose, was furnished with shells of paint, and pencils, with which he amused himself frequently ; and his friends deeming it an inoffensive amusement, had not mentioned it to me. On examining further, I found also that he had got a trick of being almost continually wetting his pencils in his mouth, while there was paint on them.

“ On this discovery, all the pernicious implements were taken from him, and by giving occasionally a purging medicine, taking care that he had stools regularly, and persisting in a proper diet, he soon began to mend, and in a short space of time recovered his usual health and vivacity.”

If your own observations correspond with these remarks, by giving them a place in your collection, the knowledge of them will soon be extensively diffused, and those who are liable to suffer by these accidents will be apprized of their danger.

Perhaps the following account, which I received from a person of good understanding, just observation, and veracity, now living in Cornwall, may not be altogether without its use, and seems not wholly foreign to this subject :

A few years ago, two persons in the same neighbourhood purchased between them a hog'shead of cyder, for the use of the people they employed in harvest.

Those

Those in the service of my friend had no complaints, and enjoyed their health as usual.

His neighbour's work-people had, most of them, some degree of the *colica Pistonum*, and divers of them severely.

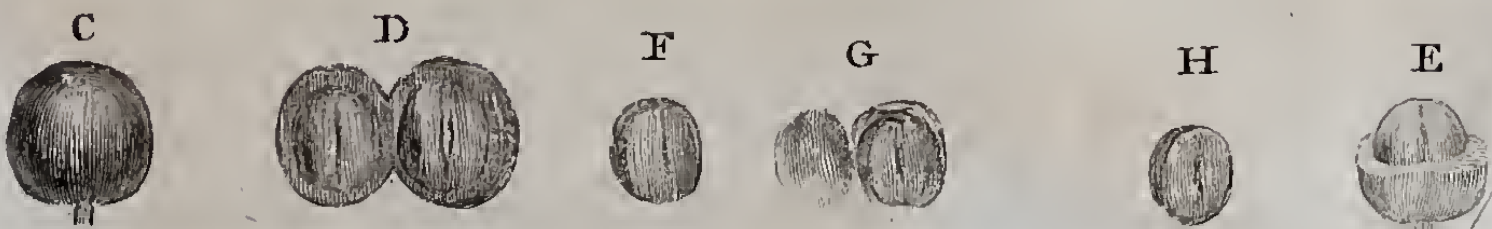
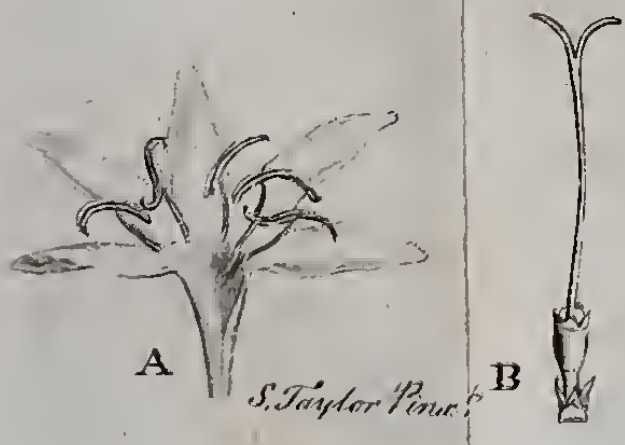
The cyder was the same, and given in like quantities; the people worked in the same neighbourhood, and at the same season.

On inquiring into the cause of this singular difference, it was found that my acquaintance had always sent his cyder to the field in a small barrel; and that his neighbour had as constantly made use of a glazed earthen pitcher for this purpose. The cyder was thin and sharp; the glazing was almost dissolved, and most probably was the cause of the complaints. This instance may serve as a very useful lesson to many people under the like circumstances; and to corroborate the evidence respecting the noxious effects of lead, already submitted to the Public by Drs. Baker, Percival, and other sensible writers.

17-11-1900



COFFEA *Arabica*



s

offee, &c.

S. &c.



COFFEA *Arabica*

A

S. Taylor Pinx.

B

C

D

F

G

H

E

J. Miller Sc.

E X T R A C T S

F R O M

An Historical Account of Coffee, &c.

By JOHN ELLIS, F. R. S. &c.

I Cannot give a better explanation of the origin of the following historical account of Coffee, than in the words of Dr. Fothergill himself, which I shall extract from a letter he wrote to me *. “ Last Summer, before I went out of town, J. Ellis
 “ desired me to put down some remarks on Coffee in writing, which he had repeatedly
 “ heard from me in conversation. I threw out upon paper whilst in Cheshire what
 “ occurred to me on the subject, in a letter to himself. His daughter draws very pret-
 “ tily, and from a performance of hers the annexed plate was engraved. Dr. So-
 “ lander has corrected the botanical part of the description: the author proposes to
 “ preface all this with an account of the introduction of this liquor into Turkey and
 “ Europe. A paper put into my hands by Governor Melville, points out the time
 “ of the plant’s introduction into the West Indies. The point in view is, to engage
 “ the Legislature to lower the duties, and encourage the produce and consumption of
 “ Coffee, for the mutual benefit of this nation and her colonies.”

From a work, in the compilation of which Dr. Fothergill had so considerable a share, I thought it not improper to preserve, with his letter, such extracts as might explain the general history of this dietetic and elegant vegetable, which flourishes luxuriantly in the hot-houses about London. The largest tree which was in the Doctor’s possession, is about fifteen feet high, which is the full size of this exotic, as I have observed it in its natural soil: this tree is now in my Garden at Grove-hill, in full berry.

Editor.

* Dated Harpur-Street, Feb. 1, 1774.

A

BOTANICAL DESCRIPTION

OF THE

FLOWER and FRUIT of the COFFEE-TREE.

THE characters of that genus of plants called COFFEA by Linnæus, who places it in the first order of his fifth class, that is, among the *Pentandria Monogynia*, or plants that have five male organs and one female organ, are as follow :

CALIX. *Perianthium* quadridentatum, minimum, germini insidens.

The *Flower Cup*, whose brim has four very small indentations, and is placed upon the germen or embryo seed vessel.

COROLLA. *Petalum* infundibuliforme. *Tubus* cylindraceus, tenuis, calyce multoties longior. *Limbus* planus, quinque partitus, tubo longior; *laciniis* lanceolatis, lateribus revolutis.

The *Flower* consists of one funnel-shaped petal, with a slender tube nearly cylindrical, much longer than the flower cup. Its brim is expanded and divided into five segments. These are longer than the tube, are sharp-pointed, and reflexed on the sides.

STAMINA. *Filamenta* quinque, subulata, tubo corollæ imposita *Anthera* lineares, incumbentes, longitudine filamentorum.

The *Chives* consist of five awl-shaped filaments fixed on the tube of the flower. On these are placed the linear-shaped summits, containing the male dust. These are of the same length with the filaments.

PISTILLUM.

3 D

The

- PISTILLUM.** *Germen* subrotundum. *Stylus* simplex, longitudine corollæ. *Stigmata* duo, reflexa, subulata crassiuscula.
- PERICARPIUM.** *Bacca* subrotunda, puncto umbilicata.
- SEMINA.** Bina, elliptico-hemisphærica, hinc gibba, inde plana, arillo involuta.
- The *Pistil* consists of a roundish germen, or embryo seed vessel. The style is straight and even, of the length of the flower, and ends in two slender, reflexed, spungy tops.
- The *Fruit* is a roundish berry, marked at the top with a puncture like a navel.
- It has two seeds, of an oblong hemispherical form, convex on the one side, and flat on the other; each of which is enclosed in a membrane, commonly called the parchment.

. Linnæus has omitted taking notice of the septum or membrane that divides the seeds into two cells or locuments; and also the little furrow on the flat side of each seed.—It frequently happens, that in the Mocha Coffee only one seed is to be found, the other being defective.

A short Description of the COFFEE-TREE,

Taken from Linnæus's Amœnitat. Academ. Vol. VI. p. 169.

- Arbor* simplex, erecta, minus alta; *Ramis* longis, simplicibus, laxis & ferenutantibus, vestitis *Foliis* oppositis, laurinis, sempervirentibus, ornata *Floribus* albis sessilibus, fere Jasmini corolla, quibus *Baccæ* cerasorum facie rubicundæ succedunt, pulpâ pallidâ, submucilaginosâ, fatuâ intus gerentes semina duo, dura, hinc convexa, inde plana, arillo cartilagineo vestita.
- The *Tree* grows erect, with a single stem, is but low [*from eight to twelve feet high,*] has long undivided, slender branches, bending downwards. These are furnished with evergreen opposite leaves, not unlike those of the bay-tree, and adorned with white Jasmine flowers sitting on short foot-stalks, which are succeeded by red berries like those of the cherry, having a pale, insipid, glutinous pulp, containing two hard seeds, convex on the one side, and flat on the other, which are covered with a cartilaginous membrane or parchment.

This Tree is a native of Arabia Felix, and of Æthiopia.

The SYNONYMS, or NAMES given to this Tree by different Authors.

Coffea [*Arabica*,] floribus quinquefidis dispermis. Linn. Spec. plant. Ed. II. p. 245.

Jasminum Arabicum, lauri folio, cujus semen apud nos Coffé dicitur. Juss. act. Gall. 1713, p. 388, t. 7.

Jasminum Arabicum, castaneæ folio, flore albo odoratissimo. Till. Prif. 87. t. 32.

Euonymo similis *Ægyptica*, fructu baccis lauri simili. Bauh. Pin. 498. Pluk. Phyt. 272. f. 1.

Bon. Alp. *Ægypt*. 36. t. 36.

EXPLANATION of the LETTERS in the Plate, which have a Reference to the Dissection of the Flower and Fruit.

- A. The flower, cut open to shew the situation of the five filaments, with their summits lying upon them.
- B. Represents the flower cup, with its four small indentations, inclosing the germen, or embryo seed vessel; from the middle of which arises the style, terminated by the two reflexed spungy tops.
- C. The fruit intire; marked at the top with a puncture, like a navel.
- D. The fruit open, to shew that it consists of two seeds, which are surrounded by the pulp.
- E. The fruit cut horizontally, to shew the seeds as they are placed erect, with their flat sides together.
- F. One of the seeds taken out, with the membrane or parchment upon it.
- G. The same, with the parchment torn open, to give a view of the seed.
- H. The seed without the parchment.

THE HISTORY OF COFFEE.

THE earliest account we have of Coffee is taken from an Arabian manuscript in the King of France's library, N° 944, and is as follows:

Schehabeddin Ben, an Arabian author of the ninth century of the Hëgira, or fifteenth of the Christians, attributes to Gemaleddin, Mufti of Aden, a city of Arabia Felix, who was nearly his cotemporary, the first introduction into that country of drinking Coffee. He tells us, that Gemaleddin, having occasion to travel into Persia, during his abode there saw some of his countrymen drinking Coffee, which at that time he did not much attend to; but, on his return to Aden, finding himself indisposed, and remembering that he had seen his countrymen drinking Coffee in Persia, in hopes of receiving some benefit from it, he determined to try it on himself; and, after making the experiment, not only recovered his health, but perceived other useful qualities in that liquor; such as relieving the head-ach, enlivening the spirits, and, without prejudice to the constitution, preventing drowiness. This last quality he resolved to turn to the advantage of his profession: he took it himself, and recommended it to the Dervises, or religious Mahometans, to enable them to pass the night in prayer, and other exercises of their religion, with greater zeal and attention. The example and authority of the Mufti gave reputation to Coffee. Soon men of letters, and persons belonging to the law, adopted the use of it. These were followed by the tradesmen, and artificers that were under a necessity of working in the night, and such as were obliged to travel late after sun-set. At length the custom became general in Aden; and it was not only drank in the night by those who were desirous of being kept awake, but in the day for the sake of its other agreeable qualities.

The

The Arabian author adds, that they found themselves so well by drinking Coffee, that they entirely left off the use of an infusion of an herb, called in their language *Cat*, which possibly might be Tea, though the Arabian author gives us no particular reason to think so.

Before this time Coffee was scarce known in Persia, and very little used in Arabia, where the tree grew; but, according to Schehabeddin, it had been drank in Æthiopia from time immemorial.

Coffee being thus received at Aden, where it has continued in use ever since without interruption, passed by degrees to many neighbouring towns; and not long after reached Mecca, where it was introduced, as at Aden, by the Dervises, and for the same purposes of religion.

The inhabitants of Mecca were at last so fond of this liquor, that, without regarding the intention of the religious, and other studious persons, they at length drank it publicly in coffee-houses, where they assembled in crowds to pass the time agreeably, making that the pretence: here they played at chess, and such other kind of games, and that even for money. In these houses they amused themselves likewise with singing, dancing, and music, contrary to the manners of the rigid Mahometans, which afterwards was the occasion of some disturbances. From hence the custom extended itself to many other towns of Arabia, and particularly to Medina, and then to Grand Cairo in Egypt; where the Dervises of the province of Yemen, who lived in a district by themselves, drank Coffee the nights they intended to spend in devotion. They kept it in a large red earthen vessel, and received it respectfully from the hand of their superior, who poured it out into cups for them himself. He was soon imitated by many devout people of Cairo, and their example followed by the studious; and afterwards by so many people, that Coffee became as common a drink in that great city, as at Aden, Mecca, and Medina, and other cities of Arabia.

But at length the rigid Mahometans began to disapprove the use of Coffee, as occasioning frequent disorders, and too nearly resembling wine in its effects; the drinking of which is contrary to the tenets of their religion. Government was therefore obliged to interfere, and at times restrain the use of it. However, it had become so universally liked, that it was found afterwards necessary to take off all restraint for the future.

Coffee continued its progress through Syria, and was received at Damascus and Aleppo without opposition: and in the year 1554, under the reign of the great Soliman, one hundred years after its introduction by the Musti of Aden, it became known to the inhabitants of Constantinople; when two private persons, whose names were Schems and Hekin, the one coming from Damascus, and the other from Aleppo, each opened a Coffee-house in Constantinople,
and

and sold Coffee publicly, in rooms fitted up in an elegant manner; which were presently frequented by men of learning, and particularly poets and other persons, who came to amuse themselves with a game of chess or draughts, or to make acquaintance, and pass their time agreeably at a small expence.

These houses and assemblies insensibly became so much in vogue, that they were frequented by people of all professions, and even by the officers of the seraglio, the pachas, and persons of the first rank about the court. However, when they seemed to be the most firmly established, the imans, or officers of the mosques, complained loudly of their being deserted, while the Coffee-houses were full of company. The dervises and the religious orders murmured, and the preachers declaimed against them, asserting that it was a less sin to go to a Tavern than to a Coffee-house.

After much wrangling, the dévotées united their interests to obtain an authentic condemnation of Coffee, and determined to present to the musti a petition for that purpose; in which they advanced, that roasted Coffee was a kind of coal, and that what had any relation to coal was forbid by law. They desired him to determine on this matter according to the duty of his office.

The chief of the law, without entering much into the question, gave such a decision as they wished for, and pronounced that the drinking of Coffee was contrary to the law of Mahomet.

So respectable is the authority of the musti, that nobody dared to find fault with his sentence. Immediately all the Coffee-houses were shut, and the officers of the police were commanded to prevent any one from drinking Coffee. However, the habit was become so strong, and the use of it so generally agreeable, that the people continued, notwithstanding all prohibitions, to drink it in their own houses. The officers of the police, seeing they could not suppress the use of it, allowed of the selling it on paying a tax, and of the drinking it, provided it was not done openly; so that it was drunk in particular places with the doors shut, or in the back room of some of the shopkeepers houses.

Under colour of this, Coffee-houses by little and little were re-established; and a new musti, less scrupulous and more enlightened than his predecessor, having declared publicly, that Coffee had no relation to coal, and that the infusion of it was not contrary to the law of Mahomet, the number of Coffee-houses became greater than before. After this declaration, the religious orders, the preachers, the lawyers, and even the musti himself, drank Coffee; and their example was followed universally by the court and city.

The grand viziers, having possessed themselves of a special authority over the houses in which it was permitted to be drunk publicly, took advantage of this opportunity of raising a considerable tax on the licences they granted for that purpose,

purpose, obliging each master of a Coffee-house to pay a sequin per day, limiting however the price at an asper a dish *.

THUS far the Arabian manuscript in the King of France's library, as translated by Mr. Galand; who proceeds to inform us of the occasion of a total suppression of public Coffee-houses during the war in Candia, when the Ottoman affairs were in a critical situation.

The liberty which the politicians who frequented these houses took, in speaking too freely of public affairs, was carried to that length, that the Grand Vizier Kupruli, father of the two famous brothers of the same name, who afterwards succeeded him, suppressed them all, during the minority of Mahomet the Fourth, with a disinterestedness hereditary in his family, without regarding the loss of so considerable a revenue, of which he reaped the advantage himself. Before he came to that determination, he visited, incognito, the several Coffee-houses, where he observed sensible grave persons discoursing seriously of the affairs of the empire, blaming administration, and deciding with confidence on the most important concerns. He had before been in the taverns, where he only met with gay young fellows, mostly soldiers, who were diverting themselves with singing, or talking of nothing but gallantry and feats of war. These he took no further notice of.

After the shutting up of the Coffee-houses, no less Coffee was drunk, for it was carried about in large copper vessels, with fire under them, through the great streets and markets. This was only done at Constantinople; for in all other towns of the empire, and even in the smallest villages, the Coffee-houses continued open as before.

Notwithstanding this precaution of suppressing the public meetings at Coffee-houses, the consumption of Coffee increased; for there was no house or family, rich or poor, Turk or Jew, Greek or Armenian, who are very numerous in that city, where it was not drank at least twice a day, and many people drank it oftener, for it became a custom in every house to offer it to all visitors; and it was reckoned an incivility to refuse it; so that many people drank twenty dishes a day, and that without any inconvenience, which is supposed by this author an extraordinary advantage: and another great use of Coffee, according to him, is its uniting men in society in stricter ties of amity than any other liquor; and he observes, that such protestations of friendship as are made at such times, are far

* The Turkish sequin (according to Chambers) is of the value of about nine shillings sterling; and the asper is a very small silver coin, of the value of something more than an English half-penny. The present value is nearly seven shillings; that is, two shillings and three-pence three-farthings for a dollar, or eighty aspers; consequently three aspers are worth something more than a penny sterling, but they are generally reckoned at an halfpenny each. Two hundred and forty-three aspers go to a sequin.

more to be depended upon than when the mind is intoxicated with inebriating liquors. He computes, that as much is spent in private families in the article of Coffee at Constantinople, as in wine at Paris; and relates, that it is customary there to ask for money to drink Coffee, as in Europe for money to drink your health in wine or beer.

Another curious particular we find mentioned here, is, that the refusing to supply a wife with Coffee is reckoned among the legal causes of a divorce.

The Turks drink their Coffee very hot and strong, and without sugar. Now and then they put in, when it is boiling, a clove or two bruised, according to the quantity; or a little of the *semen badian*, called starry anniseed, or some of the lesser cardamums; or a drop of essence of amber.

It is not easy to determine at what time, or upon what occasion, the use of Coffee passed from Constantinople to the western parts of Europe. It is however likely that the Venetians, upon account of the proximity of their dominions, and their great trade to the Levant, were the first acquainted with it; which appears from part of a letter wrote by Peter della Valle, a Venetian, in 1615, from Constantinople; in which he tells his friend, that, upon his return he should bring with him some Coffee, which he believed was a thing unknown in his country.

Mr. Galand tells us he was informed by Mr. de la Croix, the king's interpreter, that Mr. Thevenot, who had travelled through the East, at his return in 1657, brought with him to Paris some Coffee for his own use, and often treated his friends with it, amongst which number Monsieur de la Croix was one; and that from that time he had continued to drink it, being supplied by some Armenians who settled at Paris, and by degrees brought it into reputation in that city.

It was known some years sooner at Marseilles; for in 1644 some gentlemen, who accompanied Monsieur de la Haye to Constantinople, brought back with them on their return, not only some Coffee, but the proper vessels and apparatus for making and drinking it, which were particularly magnificent, and very different from what are now used amongst us. However, until the year 1660 Coffee was drank only by such as had been accustomed to it in the Levant, and their friends: but that year some bales were imported from Egypt, which gave a great number of persons an opportunity of trying it, and contributed very much to bringing it into general use; and in 1671 certain private persons at Marseilles determined for the first time to open a Coffee-house in the neighbourhood of the Exchange, which succeeded extremely well; people met there to smoke, talk of business, and divert themselves with play; it was soon crowded, particularly by the Turkey merchants and traders to the Levant. These places were found very convenient for discoursing on and settling matters relating to commerce; and shortly after the number of Coffee-houses increased amazingly:

notwithstanding which there was not less drank in private houses, but a much greater quantity; so that it became universally in use at Marseilles, and the neighbouring cities.

Before the year 1669 Coffee had not been seen at Paris, except at Mr. Thevenot's, and some of his friends; nor scarce heard of but from the account of travellers. That year was distinguished by the arrival of Soliman Aga, ambassador from Sultan Mahomet the Fourth. This must be looked upon as the true period of the introduction of Coffee into Paris; for that minister and his retinue brought a considerable quantity with them, which they presented to so many persons of the court and city, that many became accustomed to drink it, with the addition of a little sugar; and some, who had found benefit by it, did not chuse to be without it. The ambassador staid at Paris from July 1669 to May 1670, which was a sufficient time to establish the custom he had introduced.

Two years afterwards, an Armenian, of the name of Pascal, set up a Coffee-house, but meeting with little encouragement, left Paris, and came to London: he was succeeded by other Armenians and Persians, but not with much success, for want of address and proper places to dispose of it, genteel people not caring to be seen in those places where it was sold. However, not long after, when some Frenchmen had fitted up for the purpose spacious apartments in an elegant manner, ornamented with tapestry, large looking-glasses, pictures, and magnificent lustres, and began to sell Coffee, with tea, chocolate, and other refreshments, they soon became frequented by people of fashion and men of letters, so that in a short time the number in Paris increased to three hundred.

For this account of the introduction of the use of Coffee into Paris, we are indebted to La Roque's Voyage into Arabia Felix. We now come to trace its first appearance in London.

It appears from Anderson's Chronological History of Commerce, that the use of Coffee was introduced into London some years earlier than into Paris; for in 1652 one Mr. Edwards, a Turkey merchant, brought home with him a Greek servant, whose name was Pasqua, who understood the roasting and making of Coffee, till then unknown in England. This servant was the first who sold Coffee, and kept a house for that purpose in George-yard, Lombard-street.

The first mention of Coffee in our statute books, is anno 1660 (12 Car. II. cap. 24.) when a duty of four-pence was laid upon every gallon of Coffee made and sold, to be paid by the maker.

The statute of the 15 Car. II. cap. xi. § 15. ann. 1663, directs that all Coffee-houses should be licensed at the general quarter sessions of the peace for the county within which they are to be kept.

In 1675 King Charles issued a proclamation to shut up the Coffee-houses, but

in a few days suspended that proclamation by a second. They were charged with being seminaries of sedition*.

The first European author who has made any mention of Coffee is Rauwolfus, who was in the Levant in 1573; but the first who has particularly described it is Prosper Alpinus, in his History of the Egyptian Plants, published at Venice in 1591, whose description we have in Parkinson's Theatre of Plants, p. 1622, chap. 79. as follows:

Arbor Bon, cum fructu suo buna, the Turk's berry drink. Alpinus, in his book of Egyptian plants, gives us the description of this tree, which he says he saw in the garden of a captain of the janissaries, which was brought out of Arabia Felix, and there planted, as a rarity never seen growing in those places before. The tree, saith Alpinus, is somewhat like the Euonymus, or Spindle tree, but the leaves of it were thicker, harder, and greener, and always abiding on the tree. The fruit is called *Buna*, and is somewhat bigger than a hazel nut, and longer; round also, and pointed at one end; furrowed likewise on both sides, yet on one side more conspicuous than the other, that it might be parted into two; in each side whereof lieth a small oblong white kernel, flat on that side they join together, covered with a yellowish skin, of an acid taste, and somewhat bitter, and contained in a thin shell † of a darkish ash colour. With these berries, in Arabia and Egypt, and other parts of the Turkish dominions, they generally make a decoction or drink, which is in the stead of wine to them, and commonly sold in their tap-houses or taverns, called by the name of *Caova*.

* This proclamation was issued about a month after the king had dined with the corporation of London, at Guildhall, on their Lord Mayor's Day, Oct. 29, 1675. At this feast the king afforded the citizens abundant matter for animadversion, in which they indulged themselves so much to his dissatisfaction, and that of his CABAL ministry, that a proclamation was issued Dec. 20, for shutting up and suppressing all Coffee-houses, "because in such houses, and by occasion of the meeting of disaffected persons in them, divers false, malicious, and scandalous reports were devised and read abroad, to the defamation of his majesty's government, and to the disturbance of the quiet and peace of the realm." The opinions of the judges were taken on this great point of stopping people's tongues; when they sagely resolved, "That retailing of Coffee and Tea might be an innocent trade; but as it was used to nourish sedition, spread lies, and scandalize great men, it might also be a common nuisance." On a petition of the merchants and retailers of Coffee and Tea, permission was granted to keep open the Coffee-houses until the 24th of June following, under an admonition, that the masters of them should prevent all scandalous papers, books, and libels, from being read in them, and hinder every person from declaring, uttering, or divulging all manner of false and scandalous reports against government, or the ministers thereof. Thus by a refinement of policy, adds Noorthouck in his History of London, the simple manufacturer of a dish of Coffee or Tea was constituted licenser of books, corrector of manners, and arbiter of the truth or falsehood of political intelligence, over every company he entertained! And here the matter ended. *Editor.*

† This description is evidently taken from a dried berry, and not from the ripe fruit.

Paludamus.

Paludamus says *Choava*, and Rauwolfus *Chauke*. This drink has many good physical properties : it strengthens a weak stomach, helping digestion, and the tumours and obstructions of the liver and spleen, being drank fasting for some time together. It is held in great estimation among the Egyptian and Arabian women, in common feminine cases, in which they find it does them eminent service.

Lord Chancellor Bacon likewise makes mention of it in 1624: he says, that the Turks have a drink called Coffee, made with boiling water, of a berry reduced into powder, which makes the water as black as foot, and is of a pungent and aromatic smell, and is drank warm.

The celebrated John Ray, in his History of Plants, published in 1690, speaking of it as a drink very much in use, says, that this tree grows only within the tropics, and supposes that the Arabs destroy the vegetable quality of the seeds, in order to confine among themselves the great share of wealth, which is brought thither from the whole world for this commodity; from whence he observes, that this part of Arabia might be truly styled the most happy, and that it was almost incredible how many millions of bushels were exported from thence into Turkey, Barbary, and Europe. He says, he was astonished that one particular nation should possess so great a treasure, and that within the narrow limits of one province; and that he wondered the neighbouring nations did not contrive to bring away some of the sound seeds or living plants, in order to share in the advantages of so lucrative a trade.

We now come to shew by what means this valuable tree was first introduced into Europe, and from thence into America.

The first account of this tree being brought into Europe we have from Boerhaave, in his Index of the Leyden Garden, part II. page 217, which is as follows: Nicholas Witsen, burgomaster of Amsterdam, and governor of the East India Company, by his letters often advised and desired Van Hoorn, governor of Batavia, to procure from Mocha, in Arabia Felix, some berries of the Coffee-tree, to be sown at Batavia; which he having accordingly done, and by that means, about the year 1690, raised many plants from seeds, he sent one over to Governor Witsen, who immediately presented it to the garden at Amsterdam, of which he was the founder and supporter: it there bore fruit, which in a short time produced many young plants from the seeds. Boerhaave then concludes, that the merit of introducing this rare tree into Europe, is due to the care and liberality of Witsen alone.

In the year 1714 the magistrates of Amsterdam, in order to pay a particular compliment to Lewis XIV. king of France, presented to him an elegant plant of this rare tree, carefully and judiciously packed up to go by water, and defended from the weather by a curious machine covered with glass. The plant was about five feet high, and an inch in diameter in the stem, and was in full

foliage, with both green and ripe fruit. It was viewed in the river, with great attention and curiosity, by several members of the academy of sciences, and was afterwards conducted to the royal garden at Marly, under the care of Monsieur de Jussieu, the king's professor of botany, who had the year before written a Memoir, printed in the History of the Academy of Sciences of Paris in the year 1713, describing the characters of this genus, together with an elegant figure of it, taken from a smaller plant, which he had received that year from Monsieur Pancras, burgomaster of Amsterdam, and director of the botanical garden there.

In 1718 the Dutch colony at Surinam began first to plant Coffee; and in 1722 Monsieur de la Motte Aigron, governor of Cayenne, having business at Surinam, contrived, by an artifice, to bring away a plant from thence, which, in the year 1725, had produced many thousands.

In 1727 the French, perceiving that this acquisition might be of great advantage in their other colonies, conveyed to Martinico some of the plants; from whence it most probably spread to the neighbouring islands; for in the year 1732 it was cultivated in Jamaica, and an act passed to encourage its growth in that island.—Thus was laid the foundation of a most extensive and beneficial trade to the European settlements in the West Indies.

*An ACCOUNT of the Culture of the COFFEE-TREE in Arabia Felix,
extracted from La Roque's Voyage.*

HE relates, that the Coffee-tree is there raised from seed, which they sow in nurseries, and plant them out as they have occasion. They chuse for their plantations a moist, shady situation, on some eminence, or at the foot of the mountains, and take great care to conduct from the mountains little rills of water, in small gutters or channels, to the roots of the trees; for it is absolutely necessary they should be constantly watered, in order to produce and ripen the fruit. For that purpose, when they remove or transplant the tree, they make a trench three feet wide, and five feet deep, which they line or cover with stones, that the water may the more readily sink deep into the earth with which the trench is filled, in order to preserve the moisture from evaporating. When they observe that there is a good deal of fruit upon the tree, and that it is nearly ripe, they turn off the water from the roots, to lessen that succulency in the fruit which too much moisture would occasion.

In places much exposed to the south they plant their Coffee-trees in regular lines, sheltered by a kind of Poplar-tree, which extends its branches on every side to a great distance, and affords a very thick shade. Without such precaution, they suppose the excessive heat of the sun would parch and dry the blossoms so, that they would not be succeeded by any fruit.

In situations not so much exposed to the sun, this defence is not necessary. When they perceive the fruit come to maturity, they spread cloths under the trees, which they shake, and the ripe fruit drops readily*; they afterwards spread the berries upon mats, and expose them to the sun until they are perfectly dry; after which they break the husk with large heavy rollers, made either of wood or stone. When the Coffee is thus cleared of its husk, it is again dried in the sun; for, unless it is thoroughly dried, there is danger of its heating on board the ship. It is then winnowed with a large fan; for if it is not well cleaned and dried, it sells for a much lower price.

* This circumstance deserves the particular attention of the West India planter, who, I am told, is accustomed to gather his Coffee as soon as it turns red, before it changes to a dark red colour, and begins to shrivel; whereas the Arabians wait for those tokens, which shew the full maturity of the fruit. Mr. Miller in his Dictionary mentions, that in some stoves in England Coffee is raised of a better quality than the best Mocha Coffee that can be procured in this country; which may likewise be owing to gathering the fruit only when it is thoroughly ripe.

*The Manner of preparing and drinking Coffee among the Arabians,**From the same Author.*

The Arabians, when they take their Coffee off the fire, immediately wrap the vessel in a wet cloth, which fines the liquor instantly, makes it cream at top, and occasions a more pungent steam, which they take great pleasure in snuffing up as the Coffee is pouring into the cups. They, like all other nations of the East, drink their Coffee without sugar.

People of the first fashion use nothing but Sultana Coffee, which is prepared in the following manner:—They bruise the outward husk, or dried pulp, and put it into an iron or earthen pan, which is placed upon a charcoal fire; they then keep stirring it to and fro until it becomes a little brown, but not of so deep a colour as common Coffee; they then throw it into boiling water, adding at least the fourth part of the inward husks, which is then boiled all together in the manner of other Coffee: the colour of this liquor has some resemblance to the best English beer. The husks must be kept in a very dry place, and packed up very close; for the least humidity spoils the flavour. They esteem the liquor prepared in this manner preferable to any other. The French, when they were at the court of the King of Yemen, saw no other Coffee drank, and they found the flavour of it very delicate and agreeable; there was no occasion to use sugar, as it had no bitter taste to correct. In all probability this Sultana Coffee can only be made where the tree grows; for, as the husks have little substance, if they are too much dried, in order to send them to other countries, the agreeable flavour they had when fresh is greatly impaired.

It may perhaps be worth while for our West India planters to make a trial of drying the outward and inner husk of Coffee separately, in the manner the Chinese do their tea, upon a broad shallow iron pan, turned upwards at the brim, placed upon a stove. They should be kept continually turning, to prevent burning; and when they are become too hot to be handled, they should be taken off with a kind of shovel, and laid upon a mat, on a low table, and shifted about until they cool, fanning them at the same time, to disperse the moisture. The pan must be frequently wiped, and kept clean from any clammy matter sticking to it, and the process repeated while any moisture is perceived. They must afterwards be packed close in dry jars, canisters, or chests lined with lead, such as the tea is sent over in. It will be proper to turn out these husks, after they have lain some days, to examine whether they are thoroughly dry; and if the least damp is felt, it will be necessary to dry them still more, otherwise they will become mouldy and lose their flavour: for it appears from the Arabian account, that they are not acquainted with a proper method of drying

ing these husks, and packing them so as to be conveyed to any considerable distance, without prejudicing this agreeable flavour.

The Chinese are very careful not to leave their tea-leaves in heaps before they are dried, which would occasion them to heat and spoil: they likewise gather no more at a time than they can dry in less than twenty-four hours, as they find, when they have been kept longer, they turn black. These observations may possibly be of some use to those who may be induced to attempt drying the pulp of the berry, for the purpose of making Sultana Coffee.

*Extract of a Letter from Dr. Fothergill to J. Ellis, Esquire, F. R. S.
Agent for Dominica. Containing some Remarks on the Culture and Use
of Coffee.*

Sept. 2, 1773.

IT is doing a very useful piece of service, and I believe an acceptable one to the public, to make them a little better acquainted with Coffee, which now constitutes so considerable a part of their entertainment, if not sustenance. I am pleased with the engraving of this very elegant plant*; it is executed in the best manner of this able artist†, and exactly after the finished drawing he received.

I have not time to collect, or relate with sufficient accuracy, the history of this berry, so far as it might be traced in the Asiatic histories: it has been used for ages. By the account which is subjoined to the reflections I am going to make on this substance, it will appear, that it was introduced by the French, into Martinico in the West Indies no longer ago than the year 1727; that it has been since that time propagated in almost all the West India islands, English, French, and Dutch; though it has not been cultivated by us with the attention it deserves.

The greatest part of the Coffee now made use of in Europe is, I believe, the produce of the West Indies; at least, the consumption of Mocha Coffee amongst us seems to be greatly reduced. Several years ago two ships were sent out annually by the East India Company; they now only send one every two years for this article, if I am rightly informed; though at the same time it may be presumed a much larger quantity is consumed than at any time heretofore.

The French, and other nations, who have possessions in the West Indies, supply us clandestinely with large quantities. It is true, we import a great deal of raw Coffee from our own islands; but the best is of foreign growth. The French in particular cultivate it with great attention; much likewise is brought from their East India settlements. Those who are accustomed to drink Coffee frequently, are sensible of a very manifest difference between the Asiatic, the French, and American Coffee. The refreshing odour of the first, and its grateful taste, much surpasses the best West India Coffee I have ever seen imported. There is something in the smell, a rankness in the taste, and disgusting return,

* As Dr. Fothergill speaks so favourably of this engraving, I have on that account procured the original plate alluded to; it exhibits the only impression that has not been purposely executed for this edition of the Doctor's Works. *Editor.*

† J. S. Miller.

especially of that from the English islands, which makes it very unpleasant to those who have been accustom'd to the best Mocha Coffee.

The tree that was first carried to Martinico, was a descendant of one from Batavia. The Dutch most probably brought the plants to their colony from Mocha, and there seems no doubt but it is the true Arabian Coffee which is now cultivated in the West Indies: but if we reflect upon the course it has taken, we may perhaps feel cause to apprehend that it may have degenerated considerably.

That part of Arabia from whence the Asiatic Coffee is brought, is for the most part extremely sandy, dry, and hot.

At Batavia the soil is in general rich and deep; and though, like other eastern climates, there is a dry season, yet in the rainy periods the quantity of wet that falls is excessive. The rich luxuriant state of vegetation in the island of Java, on which Batavia is situated, is a proof of this assertion; and one may safely infer, that a plant brought from a dry, sterile, sandy soil, will assume not only a very different appearance, but its fruit will have a very different quality, from that which is the produce of a fertile, moist soil, subjected to equal heat. It is not therefore improbable, but from this circumstance the plant brought from Batavia to the royal garden in France, and its issue transported to a climate much more abounding with moisture than that of which it was a native, may so far have assumed another nature, as not easily to be brought back to its original excellence.

I wish this circumstance, however, only to be considered as a suggestion, which, though not without the appearance of probability, may not be sufficiently warranted by experience: but should it prove true, it may lead us to one practicable method of meliorating Coffee. Let the Coffee be planted in a soil as similar to its natural one as possible. Indeed the short account which is annexed to this letter confirms my apprehensions. The drier the soil on which the Coffee grows, the smaller is its fruit, and its quality more excellent. There are some kinds of trees, perhaps the greatest part, whose fruit, while the trees are young, is either more insipid, or the taste of it less refined, than at a more advanced age. The fruit of young walnut-trees is large, but it is watery and insipid; as the tree grows older the nuts decrease in size, but their taste is more agreeable. A similar progress may be observed in many other species; and it is not improbable but the Coffee-tree may be another instance of the like properties. It is certain, that in old Coffee-trees the fruit is smaller; perhaps an accurate taste would discover that its flavour is improved in proportion. The experiment may be recommended to those who cultivate the Coffee-tree in our islands. But I have not time to trace all the circumstances that have a probable tendency to lessen the value of our own plantation Coffee.

I hasten to another point, which would soon put our planters upon over-

coming every difficulty, and would oblige them to study the culture of the plant, the curing of the fruit, and sending it to us in the highest perfection possible. By what means can we make it the West India planters interest to cultivate Coffee in such a manner, as to approach in taste and flavour as near to the Asiatic as possible? Perhaps the shortest answer to this would be, Make it their interest; that is, to encourage its importation.

I am well informed, by a person intelligent in these matters, that the duties and excise on Coffee from the plantations are as follow:

	£.	s.	d.
The duty on Coffee of the growth of the British plantations, for			
home consumption, is 1l. 13s. 6 $\frac{3}{4}$ d. per hundred weight; which		0	0 14
is per lb. about	—	—	—
Excise on Ditto is, per lb.	—	—	0 1 6
			—
Total per lb. is		0	1 10

When such an excessive load of expences, and so many difficulties arise to the grower, importer, and of consequence to the consumer of West India Coffee, it is no wonder that the planters give themselves very little concern about its cultivation. At present there is very little difference in the produce, and consequently in the price; the high duties are a bar to its use amongst us, the Coffee is in general bad, and the price in proportion.

This discouragement renders them less solicitous about it: bad as it may be produced, it finds consumers abroad, and to vend it with certainty answers their purpose better than a more attentive cultivation of a commodity clogged with such duties.

Those who know the taste of Mocha Coffee, and are desirous of using our West Indian, soon quit it with disgust. Better Coffee than our own, the produce of the French isles, finds its way into some of the out-ports clandestinely, is much used, and thought to be equal to the Turkey. Taste is perhaps more the effect of habit than is generally admitted; of this, tobacco is the strongest and first instance that occurs to me: to a person unaccustomed to it, the finest is scarcely tolerable.

If the duties and excise upon Coffee were lessened, the consumption would be increased: taste would grow more refined, the best would be sought for, and the price would be in proportion. The present duties are almost prohibitory. It may be worth one's while to view the effects of these high duties in a political light—I mean in respect to this article.

For a century to come, it is perhaps more than probable, that the people of this country will, for one meal at least, make use of either Tea, Coffee, or Chocolate;

colate ; I speak of the generality. Tea at present takes the lead ; whence it comes, its history, properties, and uses, have been so fully explained, that I shall say nothing here upon the subject *.

It is a question often proposed to physicians, Which is best, Tea or Coffee ? The solution of this point would perhaps be a difficult one. We neither find the Chinese or Turks subjected to any such discriminating effects, as enable the faculty to say, with precision, that one is more injurious than the other. For my own part, I leave it to the experience of individuals. To some people Coffee is disagreeable ; they charge it with producing nervous complaints. Tea is not without similar accusations. It seems as if the human frame was, however, so happily constructed, that it is less in the power of such things to affect it than might at first sight be imagined. The animal powers are apparently such, as can convert almost opposite principles to its benefit, if used in any degree of moderation : some drink Coffee almost to excess, and condemn Tea as injurious ; and so Coffee is treated in its turn. These are proofs, however, how few people are capable of making proper inferences from experiment.

I think neither Coffee nor Tea afford any very material support ; that is, contain very little nutriment ; they are rather the vehicles of nourishment than nutritious of themselves : the most that can be expected from them in general is, that they are grateful, and very little injurious. Custom has adopted them both, and it becomes us to make them as useful to ourselves, and as subservient to public good, as may be in our power. China, that supplies us with Tea, is remote ; the navigation long and dangerous ; the climate not always favourable to our seamen ; indeed, all long voyages are injurious, and the hotter the climate the worse. As a nation, a commercial nation, whose accommodations depend on this useful race of people, we cannot, as friends to humanity, wish to promote the consumption of those articles, which are introduced at so great an expence of useful lives. Coffee from our own plantations is in this respect much preferable to Tea ; the voyage is shorter, the risque is less. Supposing then, that Tea and Coffee are alike in respect to real usefulness ; that one is not inferior to the other in respect to the health of the consumers : suppose, likewise, that the disadvantage with respect to the lives of the seamen were equal, which however is not the case, there is one material difference that ought to turn the scale in favour of the more general use of Coffee—it is raised by our fellow-subjects, and paid for with our manufactures. Tea, on the contrary, is paid for principally with money. The quantities of British goods which the Chinese take from us is inconsiderable, when compared with the quantities we pay for in bullion.

The Chinese take from us every article which they can turn to national be-

* See Dr. Lettsom on the Tea Plant.

nefit, and whatever enables them to improve their manufactures. Besides raw silk, and a few other articles of some little use in our own manufactures, most other things imported from thence we can do without, especially if the consumption of our Coffee was encouraged. Were the duties and excise upon Coffee, for instance, reduced to a quarter part, more than double the quantity would be consumed; was the consumption greater, the planters would find it their interest to cultivate the trees with more attention: increased demand would increase the price; and as more came to market, the best would sell dearer than an inferior kind. These must be the certain effects of increased demand.

There is another consideration of some moment likewise; which is, that the cultivation of Coffee might be carried on in such manner, as the lesser planters might subsist by it, and a few similar articles, cotton particularly, with little stock, and without much expence for negroes. No little planter can make sugar to advantage; the expence of negroes, cattle, mills, and other requisites of a sugar plantation, are beyond his reach: if he has any landed property, by one means or another, he is often obliged to sell it to his richer neighbour, and to remove to some other country, less unfavourable to contracted circumstances. Thus the islands are gradually thinned of the white inhabitants; they become less able to quell the insurrections of their negroes, or to oppose any hostile invasion.

The annexed account of Coffee anticipates some remarks I meant to have spoke to more fully, which had often occurred to me. The writer of that short account has not, however, wholly exhausted the subject: he very justly describes many circumstances which tend to make West India Coffee of less value than the European; he is very right in his observations on the difference of quantity produced in different soils and situations; he most pertinently censures the English for want of care in shipping it home; the French exceed us vastly in this respect; and the greater price it fetches, is owing in a great degree to superior care and management. One would hardly suspect the merchants and planters could be capable of so much inattention as to ship Coffee in vessels loaded with rum and coarse sugars; articles capable of communicating a taste scarce to be driven off by fire; so penetrating are the steams arising from rum and sugars confined in a ship's hold. So much Coffee ought to be collected together at one place as to load a vessel. It is objected likewise, that the Coffee in the West India islands cannot easily be dried in a proper manner, from the great moisture of the air: but there are in all the islands high grounds, to which the Coffee might be brought and dried sufficiently.

Another point ought not to be omitted, which is, that our plantation Coffee is made use of too soon. Perhaps one part of the excellence of Mocha Coffee arises from this circumstance—The East India company send a ship once in two years:

years: it is most probable a part of the loading has been kept in that hot dry country above a year; it is six months before it arrives in England; and it may be six or twelve months more before it comes into the consumer's hands. Thus, between two and three years must inevitably intervene between its growth and consumption.

Much of that mucilage, which most probably in roasting is the basis of its flavour, is changed by this delay; and indeed experience confirms it.

Besides many instances that might be given from credible witnesses (and especially from Governor Scott's account of this subject hereunto annexed) the following passed under my own observation, and, as far as it reaches, may be conclusive:

I had a present made of several kinds of raw Coffee from the West India islands; it being known that I wished to encourage the culture of this plant, for the reasons I have alleged. Some of this Coffee, which a year ago was so ill tasted as to be unfit for use, was laid in a very dry closet: this year it was again tried, and found to be greatly amended; in another it will probably be little inferior to the Asiatic, if it amends in proportion. It is of much consequence whether the Coffee is imported with other goods, or alone; whether it is kept in moist, damp warehouses, or in dry, airy places; whether it is used immediately, or not till after it has been kept a considerable time. It would be well worth the planter's labour and expence, to keep his Coffee in the island from year to year, till he has got such a quantity, either of his own, or bought from his neighbours, sufficient to load a small vessel; marking the different ages. But the whole of this depends entirely on government. Lessening the duty would increase the consumption, prevent smuggling, enable many whites to gain a comfortable support, and to pay for our manufactures. As it is raised by our own people, imported with less risque of seamen's health and lives, in a political light it must certainly deserve the deliberate attention of the legislature.

Coffee made in the following manner is pleasing to most people, and is much preferable to Tea, or to Coffee made in the usual manner, for breakfast:—Let Coffee be made in the usual manner, only a third part stronger; let as much boiling milk be added to the Coffee, before it is taken from the fire, as there is water; let it settle; drink it with cream, or without, as may be most agreeable. And were the poor and middling people enabled to procure this, it would be much more nourishing and beneficial than the wretched beverage they indulge themselves with of the most ordinary Teas. Very little sugar ought to be used with Coffee; on weak stomachs it is too apt to become acid, if made sweet: and this is one reason why many people forbear drinking Coffee. I do not presume to settle this important question, Which is preferable, Tea or Coffee?

Coffee? This must be left to the experience of individuals. So far as concerns myself, I may be permitted to become evidence.

Though I like Tea, I found it not quite favourable to my health, from some circumstances: I tried Coffee, made in the manner above mentioned, and have drank it almost constantly many years, without receiving any inconvenience from it.

It may require a good deal of physical sagacity to determine, how far the French custom of drinking Coffee immediately after dinner, is right; but I think it can admit of no dispute, whether a dish of Coffee, or a bottle of wine, may then be less prejudicial to health.

I think, however, it is less injurious to drink Coffee immediately after dinner, than later in the evening; and at least for one very obvious reason:

Coffee most certainly promotes watchfulness; or, in other words, it suspends the inclination to sleep. To those therefore who wish not to be too subject to this inclination, Coffee is undoubtedly preferable to wine, or perhaps to any other liquor we know.

The instances of persons to whom Coffee has this antisoporific effect, are very numerous; and the instances are almost as numerous of such to whom wine has the opposite effect.

To attribute the liveliness of the French, after their repasts, to this beverage, would be highly hypothetical: but I think it must be acknowledged, that after a full meal, perhaps of gross animal food, even a mere diluent is much preferable to wine; which, whilst it gives a temporary flow of animal spirits, rather opposes that necessary assimilation which nature aims at in the offices of digestion.

Was Coffee substituted instead of the bottle immediately after dinner, it seems more than probable that many advantages would flow from it, both to the health of individuals, and general œconomy; and it seems not improbable, but by deferring Coffee or Tea so late as is usually practised, we interrupt digestion, and add a new load of matter to that already in the stomach, which, after a full meal, is not a matter of indifference.

On the contrary, ever since I was capable of forming an opinion on subjects of this nature, I could not forbear thinking, that the use of Tea in an afternoon, at the time and in the manner it has generally been practised, is exceedingly prejudicial to many persons; and if many have escaped without feeling any prejudicial effects, they may justly ascribe it to the firmness of their constitution; I was almost tempted to say, to their good fortune. This matter, I own, is capable of much dispute; and the more so, as minute distinctions must be called to the aid of both parties.

I cannot however conclude these remarks, without repeating the substance of
what

what I could wish to inculcate; that in respect to real use, and as a part of our food, I have no evidence to induce me to think that Coffee is inferior to Tea.

That in respect to national œconomy, the benefit of our colonies, and the lives of the seamen, every circumstance concurs to give Coffee the preference. It is raised by our fellow subjects, paid for by our manufactures, and the produce ultimately brought to Great Britain.

That the great obstacle to a more general use of Coffee, is the very high duty and excise.

That lessening the duty would not lessen the revenue; smuggling would be discouraged, and an increased consumption would make up the deficiency to the treasury.

That the planters would be induced to cultivate Coffee with more care, was there a better market for it.

That, as little planters might be enabled to subsist by raising Coffee, &c. their numbers would increase, and add to the strength of the several islands; as Europeans might endure the labour requisite for the cultivation of Coffee.

I have subjoined the translation of a paper communicated to me by Governor Melville, whose unwearied endeavours to promote the interest of Great Britain and her colonies deserves every grateful acknowledgment; and likewise the copy of a letter I received long since from the late Governor Scott of Dominica: I persuade myself, that evidences like these will have some weight with the public.

Should any part of these remarks afford my friend reason to think they may contribute to the benefit of the community, he is at liberty to make use of them in what manner he pleases.

J. FOTHERGILL.

Observations on COFFEE, by a learned and experienced Planter at the Grenades, communicated to Doctor Fothergill by Governor Melville.

TRANSLATED FROM THE FRENCH.

SEVERAL persons in Europe imagine, that a much better kind of Coffee might be gathered in our islands than that which is usually brought from thence. There is no doubt of this, and our inhabitants are very sensible of it; but the ever-powerful motive of interest prevents them from endeavouring to improve the produce of this plant.

They learn from experience, that a light soil, dry and elevated slopes, produce Coffee of a smaller berry and more delicate flavour; and that all the Coffee which grows in a low, fertile, and moist soil, is bad, the berry large and flat, and almost insipid.

Experience also teaches them, that trees planted in these soils yield commonly from twelve to sixteen ounces of Coffee per plant; in the other soils they scarcely furnish more than from six to eight ounces; this makes an immediate difference of one half in the weight. Now in France, England, and all the European markets, the only stated difference in the price of the small well-prepared Coffee, and that which is larger and of the worst kind, is from fifteen to twenty per cent. The inhabitants therefore would necessarily find it their advantage to plant their Coffee-trees in the richest soil; and those persons only will have the small and fine Coffee, who have no other than bad grounds, and have not a sufficient number of Negroes to manure and improve them.

The calculation is easily made: with an equal number of plants double the weight is produced; and by the difference of price no more is lost than from fifteen to twenty per cent. Interest hath therefore prevented our inhabitants from applying themselves to the culture of that kind of Coffee which is most valued in Europe. To excite a proper emulation among them, the difference of price between the various sorts of Coffee should be as considerable as it is between the several kinds of sugar.

To these considerations we may add, that the trees last a much longer time in the fertile grounds, and that they need not be transplanted so frequently.

Some skilful persons have advised to follow the method of the Arabs, with respect to the preparation of Coffee, in two particulars; first, never to gather it till it is perfectly ripe; secondly, to dry it in the shade, when separated from the pulp.

The last of these is scarce possible; because, although the air is very hot in these climates, it is always so damp, that we know from experience the Coffee could never be dried in the shade sufficiently for exportation into Europe.

The

The first would be very useful, and even possible, if other persons were employed in the business than Negroes, who, being lazy, ignorant, and generally ill-disposed, either cannot or will not attend properly to this particular, and have no other wish but to finish their work as fast as possible, either to get rid of the task imposed upon them, or to avoid punishment: besides, the season for gathering the Coffee being near the winter, the rains, which are then very frequent, often make the berries fall before they are perfectly ripe.

As to the history of our Coffee, it certainly comes originally from Babel Mandel. The first tree that was brought to Martinico in 1727, or 1728, by Mr. Delieu, came from the gardens of his Most Christian Majesty, and was of the same species as that which is at Batavia. This tree was planted near to Port Royal, in a fertile moist soil, and almost level with the sea, so that the species must necessarily have degenerated.

All the lower class of people in Martinico before this time cultivated the Cocoa; but by a contagion, as difficult to account for as the effect of it was general, all the Cocoa-trees perished in 1727. The inhabitants, half ruined, after having tried several schemes, resolved at last to plant Coffee; and the French East India Company having lowered the duties, this cultivation was much encouraged.

The French are in general more cautious in the exportation of their Coffee than the English; they put it into casks that are very dry: in the Windward Islands, where the best Coffee is made, the vessel is neither laden with raw sugars, nor with rum; clayed sugars only are exported with it, which are of little detriment to this berry: the captains take care also to place it between decks, or in some other very dry part of the ship. The English, on the contrary, stow raw sugars and rum in almost every part of the vessel: these do a considerable injury to the Coffee that lies near them.

There is another more distant cause, that few people have noticed, but which contributes greatly to the badness of the Coffee exported into England:

Most of the English ships are hired for the freight; the captains stow the goods as they receive them, and the owners are satisfied if the vessel is but well filled: it is a matter of little concern to them, whether the several kinds of goods have been properly disposed, or whether they have received any detriment by lying near each other. The French ships are generally laden for the proprietors own use; the captains buy the goods themselves; and, that they may be able to give a proper account of their management, and to shew that they have acted with prudence and caution, they are obliged to pay great attention to the stowage of their vessel, and to the preservation of their cargoes. Hence it follows, that the Coffee which is carried to France, is better than that which is brought to England.

*Extract of a Letter from George Scott, Esq; late Lieutenant Governor of
Dominica, to Dr. Fothergill.*

Government House, Island Dominica,
November 21, 1765.

S I R,

MR. I——, a considerable planter of Grenada, touched at this island on his way thither; and, in the course of his intelligence, having made me acquainted with your patriotic efforts for encouraging the growth and produce of the infant colonies lately ceded to us by France; and being very desirous of throwing in my mite towards forwarding your very laudable labours, I have therefore taken the liberty of putting on board the ship Neptune, Edmund Stevenfon master, under the care of Mr. Beats, of London, in a box directed for yourself, three small bags of Coffee, which you will do me the favour to accept, trifling as they are, though I have not the honour of your acquaintance, as they are only intended for whatever experiments you may think proper to make of them.

The little bag, marked N° 1, was gathered in the year 1760; that marked N° 2, in 1763; and N° 3, last year: all the growth of this island, which is looked upon to make the best Coffee in the West Indies, excepting that of the island of Mary Gallant; and on the west side of the island of Martinique, on the mountains opposite the Diamond Rock; which Coffee the French always gave the preference to, though the inhabitants of this island prefer their own, which they always make use of for their breakfast, taking equal quantities of it and boiled milk (or, more properly speaking, milk that is scalded) and after their dinner they commonly drink a cup of Coffee without milk; and they have in general excellent health, and a fine flow of spirits, for this part of the world: whereas the English subjects, whom it is difficult to wean from prejudices, still persist in the use of Tea; and, though they enjoy a good state of health, do not appear to have half the vivacity or liveliness with the French in the same island with us.

I am told, that in England they stamp a value upon Coffee in proportion to the smallness and greenness of the grain; here they regard neither the size nor colour of it for their own use, but esteem it in proportion to the time it has been gathered, and for having been kept in a dry warm place, and exposed to the air three or four times a year; and the greater number of years it is kept in this manner, the better it is, they say. They also ascribe a great deal of its excellence to the method of preparing it for use: if it is over roasted, it has a flat,
bitter,

bitter, and burnt taste; and if it is not roasted enough, though the Coffee should be five or six years old, it will taste as if it had been gathered this year: but if it is old and well roasted, and immediately covered up smoaking hot in a bowl or cup, to prevent the fine volatile particles and flavour from going off; if then, when cold, it is ground, and made properly with boiling good water, it is looked upon to be in its highest perfection. The better sort of French, in all the islands, make a practice of taking a cup of equal parts, Coffee and scalded milk, with a crust of bread, almost as-soon as they get out of bed in a morning; and the reasons they give for this custom are, that it clears the brain, enlivens the senses, cleanses the stomach, throws off any rheum or fortuitous matter that may be lodged about the head, stomach, or lungs, from foul air or putrid vapours: and they likewise say, that it prevents, and even cures, the gravel. The Turks also set the highest value upon good Coffee, on account of its exhilarating qualities, and brightening the animal spirits. Surely then it must be preferable to Tea, which has quite contrary effects in most shapes whatever; and it must, in my humble opinion, be one of the best breakfasts in the world for the honest brave people of the foggy island of Great Britain, where such a multitude of melancholy accidents happen from a lowness of spirits. But what effects Coffee or Tea have upon the body or mind, you, Sir, must be the best judge, as it is your principal study and profession to know the œconomy of the human frame; mine having been ever that of arms, and at present to preside over this island; from whence I will with pleasure send you annually as much Coffee, of whatever sort you like, as you may want for your own use, while I remain here; being very much (though unknown)

Sir,

Your most obedient

humble servant,

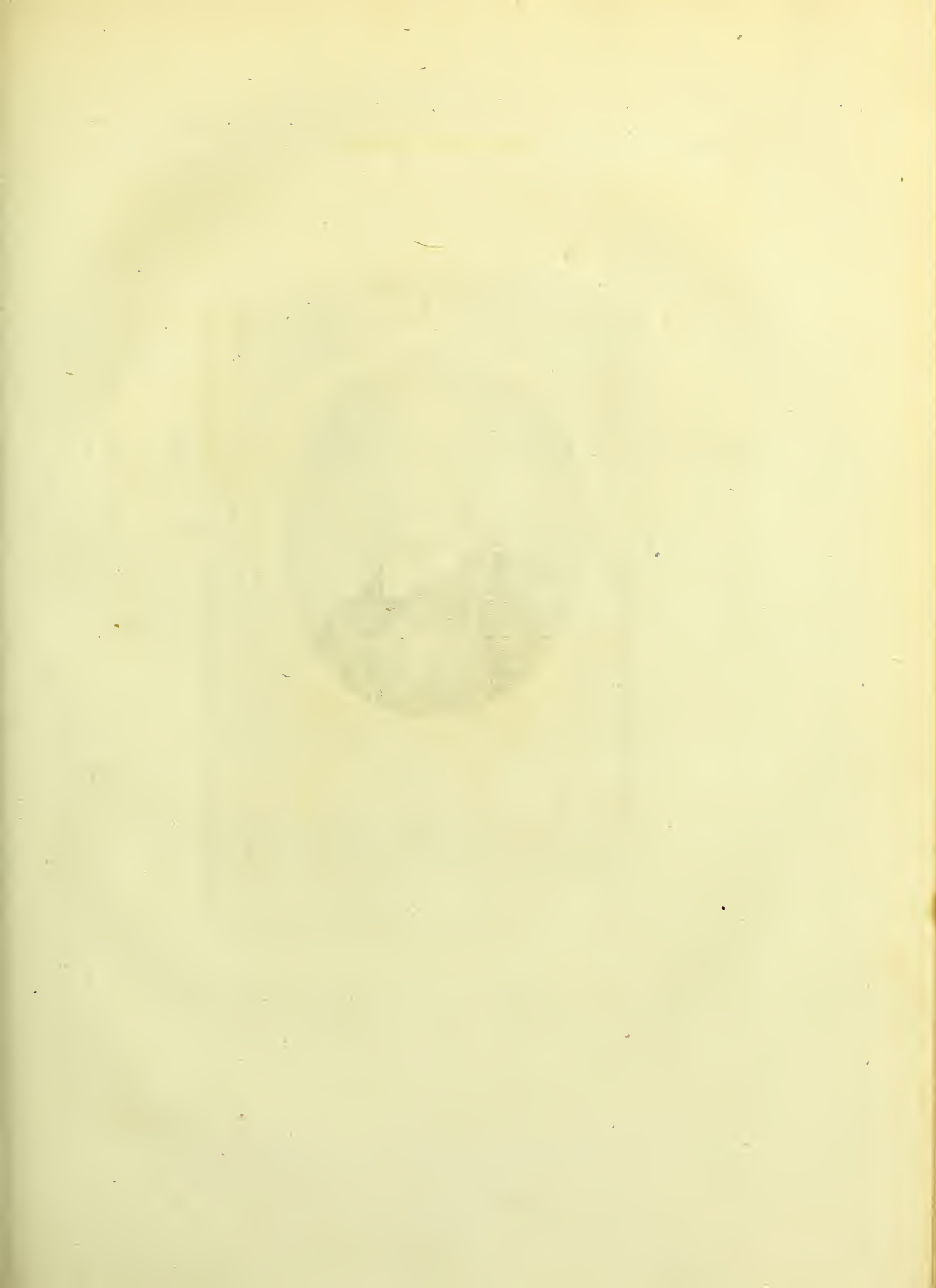
GEORGE SCOTT.

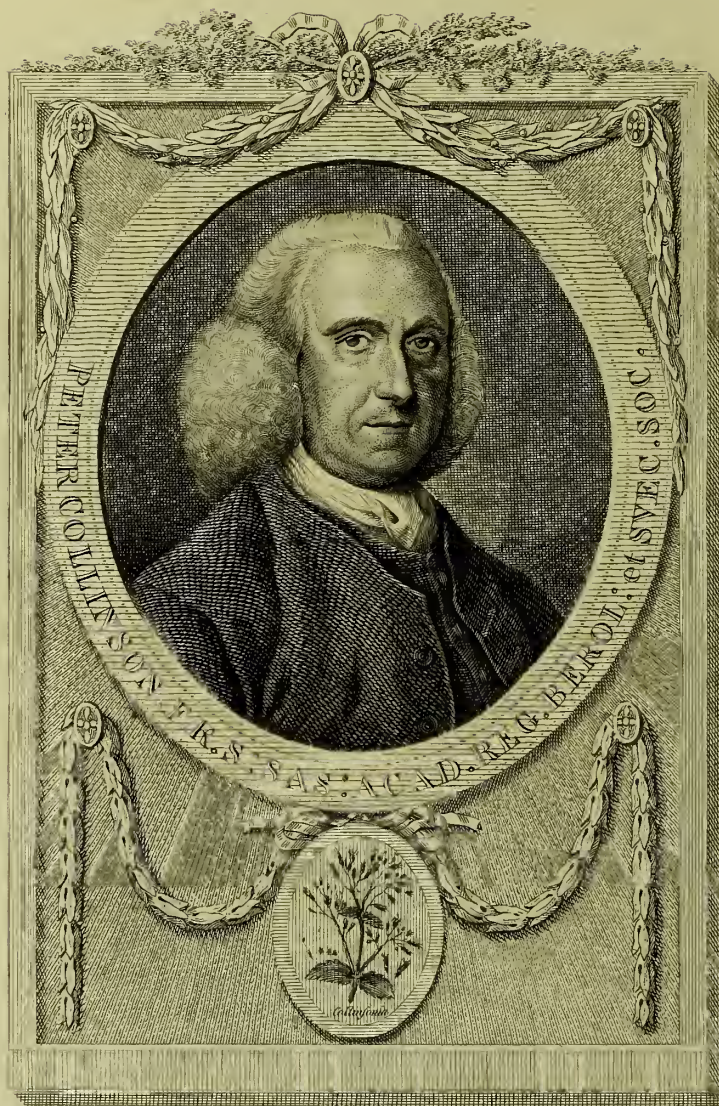
P. S. The method of curing Coffee through the West Indies is, by passing it through a mill after it is ripe and gathered; and after this operation it is put into cisterns, and covered with water for ten or twelve hours, until the pulp becomes loose, when it is washed, and the Coffee, being in its husks, is thrown in heaps to sweat, and that the water may drain off, for two or three days more, when it is spread abroad and dried in the sun; and when dry, is put into troughs, and pounded with rammers, until all the husks (or parchment, as they call it) are beat off, when it is winnowed in the air, and exposed in the sun until it is perfectly dry, and then carried to market. The Coffee I send you, in the little bag marked N° 3, is some of a small quantity I got one of the planters to make for me after the method of Mocha; which, as I am informed, is by sweating and drying it in the shade after it is passed through the mill, and

must, in my opinion, be infinitely preferable to soaking it in water, and drying it in the sun, which certainly must extract abundance of its virtues; particularly that fine flavour good Coffee has, which is so grateful to the smell when it is first poured out. This little bag, I believe, you will find very good, though it has not been cured above ten months; and if there was enough of it to keep for three or four years, I imagine it would be perfectly excellent; for this method must certainly be the best, and I have endeavoured to persuade many of the planters to come into it; but the great expence they must be at to erect buildings to cover it from the sun and rain while it would be curing, the great labour and time it takes to cure it after the manner of Arabia, and the small price it bears at present, will not as yet permit them to come into it; though I am fully persuaded that the Coffee of this island is full as good, when pulled off the tree, as any in Arabia, was it but cured after the same method; which I doubt not the planters will adopt, should the price of Coffee rise, so as to encourage them in the undertaking.

G. S.

SOME





Engraved by Trotter

S O M E A C C O U N T

OF THE LATE

P E T E R C O L L I N S O N ,

FELLOW OF THE ROYAL SOCIETY, AND OF THE SOCIETY
OF ANTIQUARIES, IN LONDON,

AND

OF THE ROYAL SOCIETIES OF BERLIN AND UPSAL.

In a LETTER to a FRIEND*.

* Printed in the Year 1769.

WHETHER those who have acquired knowledge by much labour, and the exertion of great talents, are apt to set too high a value on their own discoveries; or that studious men, by mixing less with the community at large, are less habituated to unreserved conversation; it has often been lamented, that they rarely descend to familiar communications with such as are but entering upon the same arduous pursuit. The late Peter Collinson, however, afforded a pleasing exception to this remark: his disposition was naturally social and cheerful; and his instructions were conveyed in that familiar and affable manner, as both suited the capacity, and excited the ardour, of the student.

It was one happiness of my life, that I was early acquainted with this eminent naturalist: he was then retiring from business; but as his presence was essential to the interests of his successor, with whom I resided, he had apartments in the same house, which afforded me frequent access to him and to his museum; and to him I am indebted for information on various departments of natural history, which I feel a pleasure in acknowledging here.

Editor.

To

* * * *

I KNOW not, my dear friend, that I ever wished for leisure, and the talent of biography, more than at present: I could employ both these in a manner that would be pleasing to myself, and perhaps at the same time useful to the public, in placing before it an example worthy of being recorded, because highly worthy of imitation. The satisfaction arising from the view of a life continually employed in commendable pursuits, and in acts of lasting and extensive utility, is not a small one; we participate afresh in every social action of the friend whom we loved whilst living, and pay that tribute to his name which love and friendship demand—a grateful and honourable remembrance.

The just esteem which my honoured friend Peter Collinson had acquired, not only among the chief promoters of natural history in most parts of the world where these studies are cultivated, but amongst men of understanding in general in every part of useful science, will, I persuade myself, render any apology unnecessary for attempting to exhibit some account of the life of this very eminent person.

Our acquaintance commenced about the year 1740; he was then considered amongst the number of those who were best acquainted with botany and natural history in England; his collection in most branches of natural history was very large, and the specimens well chosen; his botanic garden contained many curious plants, not at that time to be met with in any other; and the number of such kept increasing to the last period of his life.

I owe much of my intimacy with the several branches of natural history, to my deceased friend: scarcely any thing gave him more pleasure than to promote an inclination for such studies, so far as was consistent with his acquaintances situation; for being in business himself, he knew the value of time too well, to endeavour to excite a taste for such researches, where probably it must have been gratified at the expence of discretion, and of those hours which ought to have been devoted to more necessary employment.

The

The family of the Collinsons is of ancient standing in the North: Peter and James were the great-grandsons of Peter Collinson, who lived on his paternal estate called Hugal Hall, or Height of Hugal, near Windermere Lake, in the parish of Stavely, about ten miles from Kendal, in Westmoreland. My friend, whilst a youth, discovered his attachment to natural history: insects, and their several metamorphoses, employed many of those hours, which at his time of life are mostly spent by others in very different pursuits. Plants likewise engaged his attention; he began early to make a collection of dried specimens, and had access to the best gardens at that time in the neighbourhood of London.

It was a favourable circumstance to himself, that he was in partnership with his brother James Collinson, in a business that did not always require their presence together. They lived in great harmony, and reciprocally afforded to each other opportunities for their respective pursuits. Both, however, had a strong relish for horticulture and planting, and both had acquired a just conception of rural elegance.

He became early acquainted with the first-rate naturalists of that age; the Drs. Derham, Woodward, Dale, Lloyd, and, to name all in one, the great Sir Hans Sloane, were amongst his friends. I first saw that amazing collection, now constituting the British Museum, with my deceased friend, in company with the late Sir Charles Wager, who had been a most generous and fortunate contributor to that vast treasure of natural curiosities; omitting nothing, in the course of his many voyages, that could add to its magnificence, and encouraging the commanders under him, who were stationed in different parts of the globe, to procure whatever was rare and valuable in every branch of natural history. To this he was strongly excited by Peter Collinson; for whom and his family Sir Charles had a very singular esteem, and continued it to the last moments of his life.

Among the great variety of articles which form that superb collection, small was the number of those with whose history my friend was not well acquainted; he being one of those few who visited Sir Hans at all times familiarly, and continued so to do to the latest period: their inclinations and pursuits in respect to natural history being the same, a firm friendship had early been established between them.

Peter Collinson was elected a Fellow of the Royal Society on the 12th of December 1728; and perhaps was one of the most diligent and useful members of that respectable body, not only in supplying them with many curious observations himself, but in promoting and preserving a most extensive correspondence with learned and ingenious foreigners, in all countries; and on every useful subject; so that he not only furnished many instructive hints from his own fund of observations, but excited others to contribute largely to the instruction and entertainment of the Society.

Besides his attention to natural history, he suffered nothing useful in either art or science to escape him; he minuted every striking hint that occurred either in reading or conversation; and from this source he derived much information, as there were very few men of learning and ingenuity, of all professions, who were not of his acquaintance at home, and most foreigners of eminence in natural history, or in arts and sciences, were recommended to his notice and friendship.

His diligence and œconomy of time were such, that though he never appeared to be in a hurry, he maintained an extensive correspondence with great punctuality; acquainting the learned and ingenious in distant parts of the globe with the discoveries and improvements in natural history in this country, and receiving the like information from the most eminent persons in almost every other. Amongst a variety of circumstances of this kind that might be mentioned, his correspondences with the ingenious Cadwallader Colden, Esq; of New York, and the justly celebrated Dr. Franklin, of Philadelphia, furnish instances of the benefit resulting from his attention to all improvements. From the former of these gentlemen many valuable observations were received; and the latter communicated his first essays on electricity to my friend, in a series of letters, which were then published, and have been reprinted in a late edition of the Doctor's ingenious discoveries and improvements. Their minds in this respect were congenial, ever intent upon promoting public good: the letter subjoined is a proof of it*.

Perhaps,

* To MICHAEL COLLINSON, Esq.

DEAR SIR,

Craven-street, Feb. 8, 1770.

UNDERSTANDING that an account of our dear departed friend Mr. Peter Collinson is intended to be given to the public, I cannot omit expressing my approbation of the design, as the characters of good men are exemplary, and often stimulate the well-disposed to an imitation, beneficial to mankind, and honourable to themselves. And as you may be unacquainted with the following instances of his zeal and usefulness in promoting knowledge, which fell within my observation, I take the liberty of informing you, that in 1730 a Subscription Library being set on foot at Philadelphia, he encouraged the design by making several very valuable presents to it, and procuring others from his friends: and as the Library Company had a considerable sum arising annually, to be laid out in books, and needed a judicious friend in London to transact the business for them, he voluntarily and chearfully undertook that service, and executed it for more than thirty years successively; assisting in the choice of books, and taking the whole care of collecting and shipping them, without ever charging or accepting any consideration for his trouble. The success of this library (greatly owing to his kind countenance and good advice) encouraged the erecting others in different places on the same plan; and it is supposed there are now upwards of thirty subsisting in the several colonies, which have contributed greatly to the spreading of useful knowledge in that part of the world; the books he recommended being all of that kind, and the catalogue of this first library being much respected and followed by those libraries that succeeded.

During the same time he transmitted to the directors of the library the earliest accounts of every new European improvement in agriculture and the arts, and every philosophical discovery: among

which,

Perhaps, in some future period, the account he procured of the management of sheep in Spain, in respect to their migrations from the mountains to the plains, and their stated returns, published in the Gentleman's Magazine for May and June 1764, may not be considered among the least of the benefits accruing from his extensive and inquisitive correspondence. When America is better peopled, the mountainous parts more habitable, the plains unloaded of their vast forests, and cultivated, the finest sheep in the world may possibly cover the plains of Carolina, Georgia, and the Floridas, in the winter months, and retreat to the mountains as the summer heats increase, and dry up the herbage. We are utter strangers to this kind of œconomy. Probably it might be practised even in this island to advantage, with this difference, that the highest ground should be chosen for the winter residence of these animals, proper shelter being made for them, and the wetter low lands left for summer.

Views of public benefit to this country, to others, to mankind in general, always suggested to him useful enquiries; and the public are in possession of many valuable hints, which from time to time he communicated through the channel of the Gentleman's Magazine * and daily papers, sometimes with his name, or

which, in 1745, he sent over an account of the new German experiments in electricity, together with a glass tube, and some directions for using it, so as to repeat those experiments. This was the first notice I had of that curious subject, which I afterwards prosecuted with some diligence, being encouraged by the friendly reception he gave to the letters I wrote to him upon it. Please to accept this small testimony of mine to his memory, for which I shall ever have the utmost respect; and believe me, with sincere esteem,

Dear Sir,

Your most obedient

humble servant,

B. FRANKLIN.

* The following is said to be a complete List of P. Collinson's papers inserted in the Gentleman's Magazine, viz.

1. A list of American seeds imported in 1751; with some instructions for their cultivation. Gent. Mag. for Dec. 1751.
2. Some observations on the white pine, commonly called the Weymouth pine. Ibid. Nov. 1755.
3. Further observations on the Weymouth and other American pines. Ibid. Dec. 1755.
4. Observations on the fir-tree. Ibid. Jan. 1756.
5. Remarks on the cultivation of some species of North American ever-green trees. Ibid. March 1756.
6. A plan for a lasting peace with the Indians. Ibid. Sept. 1763.
7. Some anecdotes of the life of the late Dr. Stephen Hales. Ibid. 1764.
8. An account of the sycamore or Eastern plane-tree. Ibid. April 1765.
9. Account of the life of the late Dr. William Stukeley. Ibid. May 1765.
10. An account of the introduction of the tea-tree of China, and of the elegantly spotted mennil-deer of Bengal, into England. Gent. Mag. Supplement for 1765.
11. Account of the introduction of rice and tar into our American colonies. Ibid. for June 1766.
12. Description of the ancient chefnut-tree at Tortworth, in Gloucestershire. Ibid. July 1766.
13. Some observations on the emigration of swallows, &c.

initials,

initials, but oftener without any signature; being more solicitous to do good, than to be seen in doing it.

His conversation was chearful, and usefully entertaining, because it was generally turned to some interesting disquisition, or imparting some beneficial information. This rendered his acquaintance much desired by those who had a relish for natural history, or were studious in cultivating rural improvements; and secured him the intimate friendship of some of the most eminent personages in this kingdom, as distinguished by their taste in planting and horticulture, as by their rank and dignity. With some of these he frequently spent a few days at their seats in the neighbourhood of London, imparting many advantageous hints with regard to the improvements they were designing: and indeed many of them were sensible that very few were either so able to advise in these respects, or so impartial. Frequent opportunities had furnished extensive observation and experience of the effects of different methods of cultivation; what soil, what aspect, best suited different plants and trees; how best to cover incurable defects, how to improve beauties; and from this general knowledge, derived from repeated remarks, he often prevented young planters from committing capital mistakes, rectified others into which they had been misled by the ignorant and designing; and by such means he prevailed upon many of his friends not only to embark in this rational amusement, but to persevere in it, greatly to their own emolument, and the lasting advantage of their country.

A very frequent observation of my friend's was, that he thought it a matter of the utmost importance to young people of fortune, that they should be as early as possible initiated into some rational pursuit, and especially into a taste for all kinds of rural improvement. The human mind, he would remark, must have some object in view; some amusements are necessary; and if virtue and propriety do not engage it, vice and folly will. Let us then turn them to an employ, which at once contributes to their health, their pleasure, and their profit, and secures them from falling into idleness or dissipation, merely for want of better engagements; let us find them something to do, and they cannot be unhappy, like a multitude of young persons, who are dissipated and corrupt, because, perhaps, those who have been early about them, or were concerned in their education, had not the inclination or address to lead them into some innocent, pleasurable, and useful pursuit.

Planting, he used to say, and gardening, supply a fund of entertainment, the most lasting and reasonable of any occupation in this life; pleasures not to be purchased. The trees which we ourselves have planted, the fruits we have raised, the plants we have cultivated, seem to be like our children, a kind of new creation; their shade, their taste, their fragrance, and their beauties, affect us with a richer repast than any others. What a pleasing scene, would he observe,

lies open to a young man of fortune, devoted to such amusements! Each succeeding year produces new shades, other fruits, fresh beauties, and brings besides most certain profit. To behold the rising groves, barrenness made fertile, our country improved, ourselves made useful and happy, and posterity enriched! When on this favourite subject, a very natural reflection often escaped him, that he seldom knew a man possessed of a taste for such pleasures, who was not at the same time temperate and virtuous. And indeed he had a right to make the observation; for he had the satisfaction of reckoning among his most intimate friends, men of the most amiable and unblemished characters in all stations, parties, and distinctions.

Nor was he employed only in promoting this taste amongst his friends, in enlarging their views, correcting and refining their judgment, but also in furnishing them with the means of increasing their plantations: and it is but doing justice to his memory, to mention, that he was the first who introduced the great variety of seeds and shrubs, which are now the principal ornaments of every garden; and that it was owing to his indefatigable industry, that so many persons of the first distinction are now enabled to behold groves transplanted from the western continent, flourishing so luxuriantly in their several domains, as if they were already become indigenous to Britain.

His business in the mercantile way was chiefly to North America, and the West Indies; the former particularly. He had perused every performance that was wrote respecting the natural history and produce of all our own settlements, and indeed of all the European colonies in the New World. This enabled him to make enquiries after every thing that was curious and useful, and brought him acquainted with the most intelligent people who came over from America; his enquiries raised some curiosity in those countries, and excited a taste for natural history and botanical researches. It perhaps may safely be said, that every thing of this sort that has appeared in those parts of the world, was chiefly owing to his encouragement. That eminent naturalist, John Bartram, may almost be said to have been created such by my friend's assistance; he first recommended the collecting of seeds, and afterwards assisted in disposing of them in this country, and constantly excited him to persevere in investigating the plants of America, which he has executed with indefatigable labour through a long course of years, and with amazing success.

The quantities of new seeds he received from America, not only supplied his own garden with every thing that was curious, but furnished him with the means of procuring others, in exchange, from other parts of the globe. He had some correspondents in almost every nation in Europe; some in Asia, and even at Pekin; who all transmitted to him the most valuable seeds they could collect, in return for the treasures of America. In this exchange of good offices, there

is abundant cause to believe no man ever exceeded him in respect to punctuality, care, or generosity; few had ever more intelligent correspondents, or succeeded better in enriching this country with the vegetable produce of every other, that could either add to its advantage or ornament. And were I to assert, that he was the means of introducing more new and beautiful plants into Britain than any man of his time, and was inferior to none in his acquaintance with the history of their introduction, I should run little hazard of transgressing the bounds of veracity.

Many anecdotes of this kind he had learned from the ancient botanists, who flourished at his entrance into these studies; and many observations he had likewise made in the course of above half a century. Were such of the former of these, as he noted in most of the books of natural history which he left behind him, collected, and the many curious remarks he made on a variety of improving and entertaining subjects, digested and laid before the public; a richer treasure of valuable knowledge can scarcely be offered to it, especially if judicious extracts were added from the letters of his correspondents.

The great Linnæus, at the time of his residence in England, contracted an intimate friendship with Peter Collinson; which was reciprocally increased by a multitude of good offices, and continued to the last without any diminution.

It was not, however, to Britain only that his benevolent views were confined: as he took much pains to excite a taste in the Americans for natural history, so he likewise often prompted them to pursue improvements, alike beneficial to themselves and to their mother country. How often have I heard him urge to such of them as visited him, the benefit, nay necessity, of cultivating flax, hemp, wine, silk, and other products! He would press the Virginians to bethink themselves in time of a more permanent staple than a plant whose consumption only depends on custom and caprice, and this custom daily declining. Vines, said he, will thrive well in your country; but imitate nature in their cultivation; do not keep them close to the ground, as we are forced to do in this and other northern European climates, for the sake of a little more sun and heat to ripen the grape: your summer heats exceed, as much as ours fall short; allow them, therefore, longer stems; let them be trained to, and supported by trees, and hide their fruit among the foliage, as in the warmer parts of Europe.

We frequently lamented the supineness and inattention of the colonists to their interest in this, as well as many other articles. In most of the northern and southern colonies there are a variety of native grapes, growing wild in the woods, and twining among the trees and bushes for their support; these yield fruit in plenty, of different kinds, and many of them capable of producing a rich good wine; how easy would it be in autumn to collect a sufficient quantity of the fruit to make trial of the wine! It has been done by a very few, and with success; the fault seems not so much in the fruit, as want of skill or care in making

making the wine. I have tasted some very good wine from the wild uncultivated grape, made without much skill, and sent over to England; what would not the same fruit, with proper skill and management, have produced? It is certainly high time for the Americans to apply themselves with a little more diligence to cultivate their native produce. No person, perhaps, was more intently solicitous than my friend to promote these useful essays, as no person was better acquainted with the natural produce of America; none saw the benefits that might result from them more clearly, nor could suggest more compendious and unexpensive means of procuring them.

Besides his attachment to natural history, he was very conversant in the antiquities of his own country; many curious remarks, as well as some ancient British curiosities, are in the possession of his son. Few persons were better acquainted with the progress of arts, sciences, and manufactures, or improvements of any kind, amongst us, than himself. The ancient state, and its gradual advances to the present, was a frequent topic of his enquiry and conversation.

He was a member of the Society of Antiquarians from its first institution, and supplied them often with many curious articles of intelligence and observation, respecting both our own and other countries; for wherever he was, or however seemingly engaged, nothing at any time escaped his notice, if it appeared likely to be useful or instructive. Why he was not elected one of the Curators of the British Museum, was matter of wonder to many of his acquaintance. He was one of the founder's most ancient and intimate friends, a contributor to this collection, acquainted with the subjects, and had done more towards promoting researches into natural history than perhaps most of his contemporaries: but he had no greater ambition than to collect what knowledge he could, and to render this knowledge subservient as much as possible to the good of mankind.

He lived many years in great domestic happiness; his family took the same bias, and aided his pursuits. Like his own, it was also their amusement; and being accustomed to the conversation of men acquainted with such subjects, they acquired both knowledge and an attachment to the study of nature.

His person was rather short than tall; he had a pleasing and social aspect; of a temper open and communicative, capable of feeling for distress, and ready to relieve and sympathize. He rose very early, and whilst in the country his time was almost continually employed in his garden, observing and assisting the operations of nature, or in the study of other parts of physical knowledge; which contributed to his health and his pleasure.

He was fond of fruit to an extreme, and of flowers a perpetual admirer; he was seldom without them in his house, from the early Snowdrop to the autumn Cyclamen. He would often relate with pleasure the astonishing advancement made in his time in horticulture; gave instances of many plants, which at their
first

first introduction would not bear our winters without shelter, and now endured almost our hardest frosts; so that foreigners stood amazed at the power of vegetation in this country, and the happy temperature we enjoy, notwithstanding the unmerited murmurs of the unthinking and injudicious against a climate the most favourable of all others to the real happiness of mankind.

Excepting some attacks of the gout, in general he enjoyed perfect health, and great equality of spirits; bearing those trials which are incident to man with fortitude and resignation.

In such a course he arrived at his 75th year; when being on a visit to Lord Petre in Essex, for whom he had a singular regard, he was seized with a total suppression of urine, which baffling every attempt to relieve it, proved fatal on the 11th of August 1768, and deprived his family, his friends, and country, of a man devoted to their interest and advantage. Inclosed in his will was found a paper, importing, "that he hoped he should leave behind him a Good Name, " which he valued more than riches; that he had endeavoured not to live uselessly; and that, all his days, he constantly aimed to be a Friend to Mankind." Such indeed he was, to the utmost of his ability; and he may justly be considered as a latent spring to many important improvements, as well as one of the principal promoters of natural history in general, and of horticulture in particular, in the age in which he lived.

He has left behind him, besides many curious anecdotes relative to the state of botany, planting, and horticulture in this country, a vast treasure of dried specimens of plants; and in spite of repeated and most cruel depredations made upon his garden, whereby he lost a multitude of valuable and curious plants and shrubs, and had besides very many others destroyed by the villains in the act of plunder, he nevertheless left a small treasure of rare plants in greater perfection perhaps than can be seen in any other spot.

That which I am now, though feebly, attempting to do for him, he often executed for his friends, rescued their names from oblivion, and proposed their virtues to be copied by succeeding generations. The late Dr. Stukeley was one; and many others might be mentioned, who have received from his friendly hand the tribute due to their memories.

His friendships were not superficial; he could not see a worthy character drop unheeded into the grave, without a wish, nay, an endeavour, to perpetuate its remembrance. For my own part, I yet feel that in him I have lost a friend who valued my happiness little less than his own, and sincerely wish it was in my power to do justice to his memory. Till, however, some person of greater ability and more leisure undertakes the task, I believe his friends will not be dissatisfied with perusing this account of his conduct and conversation.

the first of the year 1770, the city of Boston was in a state of great excitement, and the people were in a state of great indignation against the British government.

The British government had passed a series of laws, known as the Coercive Acts, which were designed to punish the people of Boston for their resistance to British rule.

The first of these laws was the Boston Port Act, which closed the port of Boston to all British ships, except those of the British Navy.

This law was intended to starve the city of Boston into submission, and to force the people to accept British rule.

The people of Boston, however, were not intimidated by these laws, and they continued to resist British rule.

They refused to import British goods, and they refused to export their own goods to Britain.

They also refused to pay the taxes imposed by the British government, and they refused to obey the laws of the British government.

The British government, in response to this resistance, passed a second law, known as the Intolerable Acts.

This law was designed to punish the people of Boston for their refusal to import British goods, and to force them to accept British rule.

The Intolerable Acts were a series of laws that gave the British government the right to quarter British soldiers in the homes of the people of Boston.

The people of Boston, however, were not intimidated by these laws, and they continued to resist British rule.



Painted by Dance

Engraved by Trott

Engraved from the original Picture in the possession of Mr. Mawhood.

AN
ESSAY
ON THE
CHARACTER
OF THE LATE
ALEXANDER RUSSELL, M.D. F.R.S.

Read before the SOCIETY of PHYSICIANS,
the 2d of OCTOBER 1769.

Y A S S H

OF THE

S O A N O

OF THE

ALEXANDER RUSSELL

THE UNIVERSITY OF

THE following Essay on the Character of Dr. Russell, was printed without any engraving of that distinguished physician. In making the present collection, I did not doubt but many of his contemporaries would be highly gratified with a striking likeness, as this is, of their late admired friend; and I can add, that no one enjoys this pleasure more sensibly than myself, as it renews in some measure my acquaintance with a man from whom I gained much information during my medical studies at St. Thomas's hospital, of which he then was one of the physicians: his behaviour and attention to the pupils endeared him to all, whilst his liberal manner of explaining the causes of diseases, and the effects of remedies, acquired him their respect. When I add, that Dr. Fothergill entertained the most favourable opinion of his moral rectitude and medical skill, a further panegyric cannot be wanted: that he loved Dr. Russell with singular friendship, the following Essay fully demonstrates. I was at the College of Edinburgh when this elegant eulogist lost his friend; and knowing how much I was interested in the general loss on which he tenderly expatiates, he concludes by informing me, "that he was seized with a putrid fever, which, notwithstanding the utmost endeavours of Dr. Pitcairn and myself, to preserve the life of a friend we loved, carried him off on the ninth day, universally regretted."*

I have quoted this passage, as it gives some account of Dr. Russell's death, which is not introduced into the succeeding pages.

In a letter to his amiable and learned friend Dr. Cuming, (who was a contemporary collegian with Dr. Russell) the eulogist, whose merit in turn, but with unequal powers, I wish to commemorate, gives his motives for paying this tribute to the character of his departed friend, and says, that "the cordial firm regard for the friend, the companion, and the physician, did what it could to record his worth. Let us," he adds, "preserve the memory of the deserving: perhaps it may prompt others likewise to deserve. The human mind requires every excitement to prompt it to look up to its original; to think it is not made for this world only: its existence is immortal; and its destiny in immortality, depends on its acting right or wrong. Great is the prize, and worth contending for; worth exciting our friends to contend for it†."

I cannot conclude without acknowledging my obligation to Dr. Russell's family for permitting the annexed engraving to be taken from the original painting in possession of his brother-in-law, — Mawhood, Esq; of Knightsbridge. I am sensible that the thanks of the public will unite with mine, for this obliging instance of contributing to their pleasure.

Editor.

* Letter to the Editor, dated Dec. 2, 1768.

† Letter to Dr. Cuming, of Dorchester, dated Dec. 8, 1769.

ADVERTISEMENT.

A FEW years ago it was reported, that the College of Physicians in London had it under consideration to admit persons desirous of practising physic as Licentiates, upon an examination in English.

This was done, as it was supposed, to introduce, into this rank, men of little or no education, in order to depreciate the characters of many who were in some esteem with the public.

An attempt of this nature could not but alarm those who were immediately to be affected by it, and who felt the designed indignity.

Several of these met together, compared the accounts they had received, and found there was too much truth in the reports, to suffer them any longer to remain inattentive to designs so prejudicial.

It was resolved to call the Licentiates in general together, to acquaint them with their situation, and to act in concert for their general safety.

But this was not all; those who embarked in this affair, had at heart not only the honour of their profession, but its public utility; not only to emancipate themselves from an authority, which appeared to them in the light of usurpation, but to establish the faculty upon a solid and liberal foundation.

How far their endeavours may succeed, is uncertain; but of one thing they are sure—they promote harmony amongst themselves; excite to an honourable emulation; and, whatever may be their fate, will give proofs by the rectitude of their conduct, and an exertion of their abilities, that they are not unworthy of the highest honours in their profession.

Philanthropy is inseparable from good minds: this led them very early to resolve, that honourable mention should be made of their colleagues after their decease. It has fallen to my lot, by appointment of the Society, to perform this office. If my abilities had been equal to my friendship for the deceased, or to his desert, the reader would have received much satisfaction in perusing the following pages.

Gentlemen,

Gentlemen,

WHEN it was first proposed in this assembly, to preserve the memory of such of our associates as had deserved well of the public, and thereby done honour to the community of which we are members, I little expected it would have fallen to my lot, so soon to have performed this mournful office for one, who in respect of vigour of constitution, temperance, and just management of his health, was inferior to none, superior to most among us.

Accustomed as we are to see the ravages of that Hand, which removes the generations of men, strong and weak, rich and poor, the ignorant and the wise, like the herbage that falls promiscuously before the scythe, not one could refrain the unaffected sigh, scarcely the tear, when it was known that our Russell was no more! The tender remembrance of friendship yet lives in every breast; we mourn without form; we see and feel the void his fall has left, and which only time can mitigate, and a resignation to the dispensations of that Power which orders all things with unerring wisdom and goodness, beyond our comprehension.

Unpractised in the language of eulogy, and unequal to the charge you have committed to me, allow me to bespeak your utmost candour and condescension, and think him not unworthy of your indulgence, who, in obedience to your commands, attempts to place before you, though in an imperfect manner, the idea of the companion you deplore.

We wish to know the most minute particulars in the lives of those, when they are removed, who have become dear to us, either from a similitude of manners, similar studies, a long and mutual intercourse of friendship, or any other of those strong connections that tend to cement individuals together in society. In infancy, almost in the period of youth and adolescence, many traits are often observable, that strongly mark the future character of the man. The relation of incidents, of no consequence in themselves, viewed in this light, affords us satisfaction, when we recollect them as the early prefaces of future worth: my acquaintance with our colleague having commenced at a later period, prevents any narrative of this kind. I have learned, however, that modesty, diligence, and propriety of conduct, accompanied him from early infancy; beloved by his intimates, esteemed by his friends, seldom making an enemy, never losing a friend, by his own misconduct.

He

He was early devoted to medicine by his father*; a person of great eminence as a lawyer in the city of Edinburgh, and singularly happy in having seven of his sons that lived to be men; not one of whom, by misbehaving, ever gave him cause of a moment's disquietude; but, on the contrary, by the just reputation they acquired, made all good men rejoice that he had such a family, and so eminently distinguished by so many good qualities.

Our colleague, after having gone through his grammatical studies with reputation in the high school at Edinburgh, and spent two years after this in the university, was placed with his uncle, who was then one of the most eminent practitioners in the city, in order to acquire the knowledge of the first rudiments of medicine. In the years 1732, 3, and 4, he continued his medical studies under the professors, who at that time so ably filled the several chairs of physic in the University of Edinburgh, and laid the foundation of that character which ranks it in the public esteem superior to most others in Europe.

Though there had long been professorships for medicine in that place, and several attempts had been made to introduce a general course of medical instruction, it was not till about the year 1720 that this university distinguished itself. Several gentlemen, who had studied under Boerhaave, with a view to revive the study of medicine in their native country, where it had formerly flourished, qualified themselves for the purpose of giving courses of public lectures on every branch of their profession. The celebrated Monro taught anatomy, after having studied it for several years under the ablest masters then in Europe†. The *theory* of physic was assigned to the amiable, the humane Dr. Sinclair; Drs. Rutherford and Innes chose the *practice*; *chemistry* was allotted to Dr. Plummer; and the teaching the *materia medica*, together with *botany*, (of which last he was appointed king's professor) devolved upon the learned and indefatigable Alston. The city of Edinburgh favoured the generous design, added to the salaries allotted from the crown, and provided as suitable conveniencies as the place would at that time afford.

* The conciseness of the author respecting the character of the Doctor's father, in all probability arose from an apprehension of endangering his own credit, or at least of subjecting himself to the imputation of credulity, had he further enlarged upon it.

For how few would believe, that a most fond indulgent father could, in his own house, manage a very numerous family of children, all boys, and bring up seven of them to man's estate, without ever giving a blow, or even using a harsh expression; and yet preserved a more perfect obedience in them, than can be produced by any bodily pain? Such education is liberal, in the truest sense of the word.

This worthy man, though he lived to the age of 86, was to the last attended, whenever he pleased (which was almost all day long) with chearful company of both sexes, and of all ages; retained his faculties and amiable temper, was never angry, and preserved his chearfulness and spirits to the last.

† Dr. Douglass, of London; Albinus, the elder, of Leyden; and Winflow, at Paris.

They had no sooner opened their respective professorships, than many students of their own nation, some from England, from Ireland, and not long after from the Plantations likewise, flocked thither. This stimulated the professors to exert their great talents with the utmost energy; professor Monro's class soon became numerous; and the anatomy of the bones, of the nerves, and his other pieces, will long remain as testimonies of his great abilities, when the grateful regard of the multitude of those who studied under him, and were witnesses of his singular attention to instruct and encourage his pupils, as well as to act the part of a parent to every stranger, fails of expression. With what grace and elegance, with what minuteness and precision, would the humane, the inimitable Sinclair explain the institutes of the master, whose nervous simplicity he studied to exemplify, though not with servile imitation! Where he differed in opinion from that great man, with what diffidence would he offer his own! Ever the student's friend, and their example, in a noble simplicity of manners, and a conduct becoming the gentleman and the physician.

Doctor Rutherford still enjoys his country's praise, and the lasting esteem of all his pupils. Plummer is no more! He knew chemistry well. Laborious, attentive, and exact, had not a native diffidence veiled his talents as a prælector, he would have been among the foremost in the pupils esteem: such was the gentleness of his nature, such his universal knowledge, that in any disputed point of science, the great Maclaurin always appealed to him, as to a living library; and yet so great his modesty, that he spoke to young audiences, upon a subject he was perfectly master of, not without hesitation.

Alston, the laborious Alston, will live for ages. What benefit his pupils had the means of reaping, will be best known when his Lectures, now in the press, are published*. What care to separate truth from falsehood! how cautious in advancing speculation! how laborious in experiment, and chaste in forming his conclusions! The numerous manuscript copies of his lectures, that were taken by his pupils, are sufficient proofs of their opinion of his abilities.

But while I am thus attempting to pay my tribute of gratitude to the memories of those eminent professors, who laid the foundation of that seminary of physic, whose reputation has since drawn students from every nation in Europe, let me not forget the learned, the able, the laborious Innes. Though I was not so happy as to be of the number of his pupils, yet I can well remember the deep regret expressed by many of the students, my contemporaries, for his early and untimely fate. Often have I heard them tell, with what dignity, with what clearness and precision, in what a nervous masculine style, he used to explain the Aphorisms of his great master. His colleagues, too, most deeply lamented the loss which they and the public sustained by the death of so able a coadjutor;

* These Lectures are since published.

they regretted the Man whom they loved, the Physician and Professor whom they esteemed.

Under such masters, and at a time when they were daily rising into reputation, Dr. Russell studied, embracing every means of qualifying himself for the duties of his station.

Several students at that time, the foremost in application and in knowledge, fired by the example of their masters, who had nothing more at heart than the improvement of those who committed themselves to their tuition, formed a society for their mutual instruction and advancement in their studies. Every student of a certain standing, who distinguished himself by his diligence, capacity, and conduct, was initiated into this little assembly. Here the opinions of the ancients, of their contemporaries, nay the doctrines of their masters, were frequently discussed; and two of the members were always charged with the task of providing instruction and entertainment for the next meeting of the Society. Questions, no doubt, were here disputed and decided, which long experience would have declined: but it exercised their faculties, gave them both sides of arguments, taught them to doubt, and habituated them to observation.

Our colleague was one of the first members of this association, instituted in the autumn of the year 1734, together with the eminent Dr. Cuming of Dorchester, the sagacious Cleghorn, lecturer in anatomy at Dublin, with a few others, who, though now removed, did honour in their stations to this institution, which not only subsists, but has yearly increased in vigour, and is honoured with the immediate patronage of the professors. In a Thesis, not long since dedicated to this society by a very ingenious member*, as well

as

* Dr. Morgan, of Philadelphia, dedicates his Thesis, published when he took his degree in the year 1763, "Societati Medicinæ Studioforum in Academia Edinburgena dudum institutæ:"

In which he bestows, among others, the following panegyric: "Quippe qui recolam quanto cum judicio, ordine et decore res vestræ gerantur; quanta sint in vestris ratiociniis et sententiis, tum libertas et candor, tum etiam nam expertus refero, æquus et humanus favor, ita ut saluberrimo hoc vestro instituto, quo non nisi utilissimæ quæstiones discutiuntur, omnia conspirant ad scientiæ medicæ studium cum fructu et emolumento promovendum," &c.

In Dr. Garland's Inaugural Dissertation, "De Medicamentis adstringentibus," published also in 1763, is the following account of it:

"Nec juvenum coetûs qui medicinæ ratione excolendæ causâ, septimo quoque die, inter se in nosocomio regio conveniunt, ac quorum ego in numero per triennii spatium fui, decessurus, non mentionem non facere potui.—Celeberrimis academiciæ scholis, hæc quasi alia succedit.—Is certe locus est, ubi audita a doctoribus, e libris petita, undecunque accepta ad medicinam pertinens disciplina, in medium prolata, ac ultro, citroque in contrarias partes disputando agitata, altius in omnium animos influit: ubi juventutis studia gloria incenduntur, exercitatione acuntur, animique ad multiplicis ac spinosæ scientiæ quærendæ laborem perferendum, propositis ex

"suorum

as from the testimony of another gentleman, who had been admitted into it, the singular advantages that result from this association are described in a manner that delineates the character of the students in that university, and does honour to the founders of the institution.

Having finished his studies in the university, though without applying for a degree at that time, he came to this city in the year 1735, and soon after went to Turkey, and settled about the year 1740 at Aleppo, in the practice of physic.

The English factory at that place, has frequently been constituted of men of property and extensive knowledge; they were such, when Dr. Russell fixed there at the unanimous request of the gentlemen of the factory. We have no account of any of his predecessors being remarkably eminent in the practice of physic; to take care of the factory, seems to have been the extent of their views.

Dr. Russell applied himself assiduously to gain a knowledge of the language of the country, and to become acquainted with the ablest of the numerous practitioners in the place, who were employed among the inhabitants. He succeeded in both: he soon discovered the incapacity of these; a few traditional receipts composed the whole furniture of most of them; he found a few, however, capable of information, and assisted them to the utmost of his power.

He was soon applied to by the inhabitants of Aleppo, of all ranks and professions; Franks, Greeks, Armenians, Maronites, Jews, &c. and even by the Turks themselves: in this instance they forgot that he was an unbeliever, remitted of their usual contempt for strangers, and not only beheld him with respect, but courted his friendship, and placed unlimited confidence in his opinion. The pasha himself became acquainted with the merit of our deceased colleague, consulted him, called him his friend, found him upright, sensible, and sincere; as a man, polite without flattery, decent, but not servile; as a christian, true to his principles; disinterested and generous as a Briton; and in point of skill as a physician, superior to every one. A natural, even, cool and consistent temper; a freedom of behaviour as remote from confidence as constraint, improved by reading and conversation; a mind imbued with just reverence of God, and impressed with a sense of the duty we owe him; an understanding fraught with the principles of the profession to which he had been early devoted (the practice of physic) happily blended with great benevolence; was a

“suorum numero exemplis pulcherrimis, perpelluntur, postremo, ubi omnes inter se mutuae
“amicitiae firmissimum necit vinculum. Floruit triginta prope annos his juvenilis circulus, et ut
“aeternum floreat precor!”

Soon after its first institution, the writer of this Memorial was likewise a member, and knows from experience the benefits resulting from it.

character seldom to be met with in the Asiatic regions: this, however, was the character of our colleague; and I appeal to you, my associates, for the justice of the portrait.

The factory thought themselves happy in such a physician, such a companion, such a countryman. His close and intimate connection with the pashcha enabled him to render to the factory the most important services; and indeed all the European nations, trading at that place, were repeatedly obliged to his interposition, on a multitude of occasions.

Seldom would the pashcha determine any intricate affair, respecting not only commerce, but even the interior police of his government, without first consulting his physician and his friend; and as seldom deviated from the opinion he proposed: and such was the pashcha's respect for so rare a character, and such his friendship and determined resolution to do him honour, that he even chose to oblige the people in the Doctor's presence, and seldom punished any criminal but in the Doctor's absence; that the people might learn to think it was owing to the Doctor's interposition, that examples of severity were not more frequently inflicted*.

Many princely presents were the consequence of this esteem: the pashcha did not even forget the Doctor's father, *to whom*, said he, *I am obliged for your assistance*. He ordered presents to be sent to the worthy old man: what joy must this excite in an aged parent's heart, to have such authentic proofs of the merit of his son from so distant a clime, and where the merit must be great to gain such a testimony!—I leave the History of Aleppo to speak its author's abilities.

* With regard to criminals, this behaviour of the pashcha was very remarkable and polite; for, when mitigating circumstances occurred in favour of criminals, to induce the pashcha to spare them, he often dismissed them, with a caution to behave better in time to come; for they were so bad, that none of their own countrymen durst speak to them; but that they owed their lives to the English Doctor: though he sometimes before had retired, to make way for the necessary severities of justice, and knew nothing of the matter till the poor unhappy wretches came to his house, to fling themselves at his feet, and with true gratitude thank him for their lives: and indeed sometimes the pashcha went so far as to tell the criminals, that, in his opinion, they certainly deserved Death, but that he durst not order it, for the English Doctor insisted on Mercy. It is rare to find any ruler making so great a sacrifice of his popularity to a stranger, or in so polite a manner to transfer it to any body.—Besides this pashcha, who ruled a long time, the others that came after him had the greatest confidence in the Doctor, and intimacy with him; particularly one pashcha of this place, an old man, who had ruled the empire as grand vizier, and died at Aleppo, intrusted him with the whole secrets of his family, and depended on his advice.

The Doctor's fame was perhaps more general over the Turkish empire, than any physician's is in Europe; well known at court, and in every province, he escaped more than once the disagreeable circumstance of being sent for to the Grand Signior in time of the plague. His brother was, in most of the trading towns in Turkey, found out, by bearing the same name, and offered great civilities; and once at Constantinople, when a slight plague happened there, was oppressed with invitations to visit several great men, which with difficulty he avoided. W. R.

—It has been already translated into other languages; and it will be justly esteemed one of the most important productions in medicine, should ever that fatal scourge, the plague, be permitted to come amongst us.

You, gentlemen, are not ignorant of its worth; and to say more on this subject, would be detracting as much from your understandings, as from your friendship.

Suffer me, however, to recount one circumstance, which may not perhaps be of such general notoriety:

From his thorough knowledge of the pestilence, and the means successfully made use of to prevent infection, in the countries most exposed to this fatal disease, he formed a design of exciting the greatest commercial nation in the world to provide some more effectual means than hitherto it had done, in order to prevent it from again becoming the dreadful theatre of pestilential contagion.—With this view, in his return from Turkey, he visited the most famous lazarettos, to which he could have access, inquired into their structure, the government they were under, and took an account of all the precautions they used for preservation.

At Naples, Leghorn, and other places, he had all the opportunities of observation he could wish for; and profited by them to such a degree, as to be better acquainted with the conduct of the wisest states, in respect to the means of prevention, than perhaps any other person: indeed, his acquaintance with this subject, and his experience, induced him to make himself master of every thing appertaining to preservation from one of the greatest of all human calamities.

And so generally was his great knowledge of this distemper established, that in the latter end of the year 1757, when our ministry was alarmed with the report of its being broke out at Lisbon, and earnestly solicitous to take every precaution to prevent its being imported into this kingdom, they thought no person so fit to be consulted on the means proper to be pursued, as our worthy colleague. Doctor Russell received his orders to attend the Privy Council; he came, and gave such pertinent and satisfactory answers to the questions proposed, that he was desired to communicate his information, and the method he proposed to prevent the spreading of that calamity, in writing. This he accordingly did; and should it please the Almighty hereafter to threaten this nation with that dreadful scourge, the prosecution of the plans then suggested may perhaps greatly contribute to avert from us the most terrible of all diseases.

From the time he left England, to his return in February 1755, we had maintained a regular correspondence. I could not forbear mentioning to him repeatedly, how acceptable a more accurate account of Aleppo would be to this nation, and to all Europe; that no person would probably ever stand a chance of succeeding in it so happily as himself; that his long residence there, his knowledge of the language, the manners, customs, diseases of the place,

the great credit he had acquired amongst all ranks, by an able, diligent, and disinterested exertion of his faculties amongst them, his influence over the pashas, and the respect paid him by the Turks themselves, would facilitate every enquiry. He viewed the proposal in the same light, collected materials, made suitable enquiries, and has erected a lasting and honourable monument to his memory.

With no small trouble he succeeded in procuring us the seeds of the *true scammony*. They were raised by my two botanical friends, the late Peter Collinson, and the indefatigable James Gordon. Seeds were likewise sent over to the southern colonies of America, in hopes that in a similar soil and latitude, in some future time, we might from thence have this valuable drug unadulterated*.

To him, likewise, we are indebted for a plant, that will hereafter be one of the greatest ornaments of our gardens †; as well as for many useful intimations, both in respect to his own profession, as to commerce in general.

He chose this city for his residence at his return to England, and soon had a considerable share of employment. A vacancy happening in St. Thomas's hospital, about the beginning of the year 1759, he was chosen physician, and continued in this station to the time of his death, an example of diligence and humanity to the sick, of great medical abilities as a physician, and as a gentleman irreproachable. The Royal Society, of which he was many years a worthy member, the Medical Society ‡, likewise, who early admitted him amongst

* The late Consul Sherrard, who resided long at Aleppo, and was one of the most eminent botanists of his time, endeavoured long and fruitlessly to obtain the seeds of this and some other curious plants. The Arabs, who are the people chiefly employed in these affairs, not so much through ignorance as knavishness, will bring every kind of seed but the right, and assert that it is the seed required. Dr. Russell assured me, that he had near twenty different seeds brought to him for the seeds of the true Scammony, by different persons employed to procure it him, with promises of a suitable reward. Amongst these found, there were two parcels of seeds alike, which corresponding to the general character, he judged were the right; and these he sent over to England. Many plants were raised from them, and some are yet in the gardens of a few botanists in the neighbourhood of London. We have not received an account of their propagation in America; but if the plant is kept alive in this country, it will probably be sent thither under some person more attentive to the public benefit than his predecessors.

Dr. Russell published an exact description of the Scammony, and the method of collecting its juice, in the first volume of the Medical Observations.

† The *Andrachne*, nearly approaching to the *Arbutus*, which it surpasses in elegance. An exact description of this plant was given in the Transactions, by that great botanist and excellent painter, the late G. D. Ehret.

‡ *Medical Society*. About the year 1752, several physicians in London, chiefly of those called Licentiates, agreed to form themselves into a society, for collecting and publishing all such observations and enquiries in medicine, that seemed to deserve the public notice. This society has subsisted ever since, has published several volumes, which have been well received, and will be followed by others.

them,

them, are obliged to Dr. Russell, and the public through them, for many valuable communications: his extensive practice at Aleppo, his early introduction into business here after his arrival, the multitude of objects under his care in the hospital, supplied a fund of medical experience, which might have yielded much benefit to society, had his life been protracted.

Need I recite how much this society is indebted to his vigilance and activity? Perhaps it is in a great measure owing to him that it exists.

Conscious of an uniform endeavour to promote the happiness of all to the utmost of his abilities in every station of life; accustomed to be treated with a degree of respect, which talents like his, so uniformly exerted in the promotion of every thing praise-worthy, had a right to expect; he could not easily brook the superciliousness of men, who were weak enough to suppose, that neither sense nor learning, skill nor experience, were the produce of any other clime than that within the narrow limits of which they themselves had been confined.

Impatient of indignities he had not deserved, and satisfied that yet greater were intended to others in a like situation with himself, with a view to erect a reputation upon other men's foundations, he communicated his sentiments to others, who had the like apprehensions; and common danger has happily been the means of cementing a permanent reciprocal regard, and forming a regular society of men, scarce known to each other but by name, but whose views are alike, self-preservation; and whose talents for promoting the honour of the art they profess, and the benefit of their fellow-citizens, have acquired signal marks of royal and public approbation.

If then to him, with very few coadjutors, is owing the existence of this society; if the establishment of it has contributed to secure no small part of the faculty of physic in this city from injury and oppression; if it should be the means of establishing the whole on a just and liberal foundation; if by it harmony and good intelligence have been promoted among individuals, whose duty and interest, now their inclination likewise, leads them to be united; our grateful acknowledgments are most certainly due to that man, who laboured most assiduously to promote these advantages; and to his memory let us pay a grateful tribute for his unwearied endeavours to serve the community, and the important services he rendered it to the latest period of his life.

For my own part, when I recollect what I have lost in him, the sensible, firm, and upright friend, the able, honest, and experienced physician, the pleasing instructive companion of a social hour, expression fails me.

Should this Account ever pass beyond the circle of Dr. Russell's personal acquaintance, perhaps it would be to them some gratification to know, that he was in respect of stature rather tall than middling, well made, of a fresh sanguine complexion, grave in his deportment, chearful in conversation, active in the business of his profession, and sagacious; an attentive and diligent obser-

ver,

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ver, clear in his intentions, manly in his prescriptions, and in his conduct to the sick, benevolent and discreet.

Animated by his example, let us pursue the arduous track of public virtue ; and having, like him, supported the dignity of our profession, by dealing, with a liberal hand to all, the blessings of health, to the utmost of our abilities, and done honour to our species, by the constant exercise of uprightness, candour, and benignity, we may close the scene, in full possession of all that deserves the name of human felicity.

THAT

THAT Dr. FOTHERGILL had formed a decided opinion upon political matters, is well known ; and those opinions he has occasionally exhibited in print, under various signatures, but never subscribed with his own name : he was more anxious to correct the judgment of others, than to display the superiority of his own. Happy would it have been for this country, had the influence of his writings been equal to their importance and sagacity : few men were better acquainted with the American Colonies, and the disposition of their inhabitants ; and, foreseeing what might probably result from the prosecution of certain measures, which to him appeared ill-timed and impolitic, he published the following Considerations, so early as the year 1765, long before the sword was imbrued in blood ; which to this day might have remained without a stain, had the knowledge and penetration of those in power been equal to his own.

Editor.

CONSIDERATIONS

C O N S I D E R A T I O N S

RELATIVE TO THE

NORTH AMERICAN COLONIES*.

THE affairs of North America are of so much importance to this kingdom, that I make no apology for offering a few thoughts on this subject to the consideration of the public.

For whether we look at the well-being and content of near two million of English subjects, on that Continent, descended from and inseparably connected with ourselves; or weigh the effects, which their discontent and unhappiness must unavoidably produce on this country; scarce a more important object can present itself to an Englishman.

The interests and affairs of the neighbouring kingdoms and states in Europe, affect us in a very remote degree, however we may have been accustomed to consider them, when compared with those of our own Colonies, and the effects that naturally, inevitably arise from the loyalty and affection, or the disgust and ill-will of so large a part of our fellow-subjects: men, indeed, who are bound to us by *duty*, but whose distance from us would render it difficult for this kingdom to keep them always under the restraints of *duty*, should they ever find it their *interest* to attempt in earnest a dissolution of that sacred bond; and either concert the means of shaking off their dependance on us, by their own force, or court the protection of some other power, till they were able to unfetter themselves from the temporary aid they had chosen to rely on, and stand upon their own foundation.

That this may be the case in some future period, should they think them-

* Printed in the Year 1765. Editor.

selves hardly dealt by, may not be improbable. It therefore becomes us to foresee, and by the most prudent and equitable means to prevent, the consequences of such an event; consequences the most serious in their nature, destructive in their tendency to Great Britain and her Colonies, who ought to tremble even at the most distant apprehension of such a fatal revolution.

If we enquire into the conduct of the wisest states to their distant colonies, we shall find it always to have been to treat them with kindness and indulgence, to engage them to look back to the mother country with duty and affection, and to recompense the protection they have enjoyed by the produce of their labours, their commerce, and, when needed, their assistance.

We meet not with many instances, comparatively, even of distant conquered countries revolting, till causes of strong disgust had sown the seeds of discontent, and succeeding acts of oppression and injustice had ripened them into rebellion.

Colonies sprung from Britain, will bear much; but it is to be remembered, that they are the sons of freedom, and what they have been early taught to look upon as virtue in their ancestors, will not soon be forgot by them. Nay, they will the sooner be apt to vindicate their wrongs, and perhaps in an improper manner, the more strongly these principles have been instilled, and the more distant they are from the source of power, and proper information.

North America, for the most part, since the time of its being discovered by Europeans, has received its inhabitants from Great Britain and Ireland: great numbers, indeed, have flocked from Germany, and some other parts of Europe, from tyranny and oppression, to our Colonies, as a land of ease and freedom. These esteem themselves British subjects, equally with the offspring of Britain: they all look upon this as their mother country, interest themselves in its safety and happiness, and esteem themselves under every obligation that society admits of, to contribute to the prosperity of Britain; for in this they contribute to their own.

The late conquests from France, are not included in this account. The inhabitants derived their origin from France, as the inhabitants of our own Colonies sprung from hence. Yet of these, a great number are acquiring, and by a just and equal government will further acquire, the like social regard for the interest of this country, as they have done for another. Time and good treatment strangely metamorphose enemies into friends.

If then the reigning disposition in our own Colonies, has always been to consider this as their mother country; the country wherein their hopes of protection center; to which they look with gratitude and affection, and to which they chearfully bring all the produce of their labour and commerce they can spare, to exchange for its manufactures, an exchange which gives bread to thousands, riches to many individuals, and vast strength to the state; if we consider

consider them in this point of view, and in such a point they have ever been considered by all who knew any thing of America, till the present unhappy period; it admits not of a doubt, what kind of regard is due to the Americans, or what manner of treatment it is the interest of Britain to exercise towards them.

And here it may be proper to explain what was meant by asserting, that the affairs of our neighbours in Europe, affect us in a remote degree, compared with our Colonies. The Colonies not only bring an increase of revenue by their traffick, consume vast quantities of our manufactures, produce, and will still increase in producing, many raw materials; but they are so situated, their numbers so increased, their martial abilities so well known, as to give vast addition to the consequence of Great Britain.

The maritime powers well know this; they see, they feel our growing influence; and that if we encourage and protect our Colonies; as we have done, the enemies of Britain have every thing to dread, its friends every thing to hope from the wise management of the power we possess: how easily are fleets or armies recruited for an American or West Indian expedition, from two millions of people just upon the spot! With what expedition and secrecy can an armament be fitted out, of great strength, from an American port, to annoy the West India settlements of those who may ever think it their interest to quarrel with us! But this power may be deemed to be yet in its infancy: its growth indeed is rapid, and wisdom is requisite to guide its efficacy to proper ends: this power is, however, British, and will choose to be subservient to the interest of the parent, if the connexion is maintained as it ought to be.

But should this happy connexion be ever shaken, or weakened by any means; should the lust of dominion at home, or should avarice banish the remembrance, that the Americans are sons, and conceive a design to enslave and fetter a free people, all these glorious prospects vanish as a dream. If they prove refractory, and submit unwillingly to restraints, which they think subversive of their liberties; and should we aim, by force, to bring them to our terms; is not the house indeed divided against itself, the kingdom split? and instead of possessing a force capable of supporting ourselves and confederates, against all human opposition; and of awing into good behaviour, those who envy our happiness and good fortune, we lessen our influence in proportion to the exertion of our strength, and waste our force in cutting the veins that supply vitality and vigour, and tearing off those sinews on which depend the exertions of our power.

How much better for the whole would it be, if any distinction is to be made, to treat those distant subjects with particular indulgence; and indeed they deserve it. For whatever the motives of their migration may have been, the effects of this migration have undoubtedly been signally beneficial to this country;

try; and some degree of gratitude seems due even to those who have done us a kindness, though without designing it.

When the first English adventurers arrived in America, the lands were of no use, no advantage to us. What little was added to the common stock, was produced by barter with the natives, and this was but an inconsiderable acquisition. When the English began to settle, to clear and cultivate, then began the real acquisition of wealth to the common national stock. Every acre was an addition of substantial value, as the produce, or the greatest part of it, was destined for the mother country, in return for her produce and manufactures. From single plantations, they have increased to colonies and provinces; governments respectable in themselves, and which have done credit to their mother country in abundance of instances, by the wisdom of their institutions, and the virtue of their administrations. How oft have they already supplied their parent with important and effectual aids, both in peace and war!

Under Providence, it solely depends upon ourselves, whether this power shall increase or diminish; whether it shall be for us, or against us. Wise and gentle methods will ever strengthen this union, will encourage population, cultivation, commerce, whilst the produce of all centers in Britain. Harsh and ungracious means will as necessarily weaken the union, will make them desirous of forgetting that they are of English descent, will lessen their duty and allegiance, and teach them to think hardly of a country, to which they indeed owe their original, but which they find disposed to disinherit them, and to deny them the privileges of their birthright. Such means will infallibly kindle jealousies, spread discontent and disaffection, and put a stop to industry, and to every virtuous aim or emulation.

People under such circumstances, impatiently look forward to that independency, which their situation favours; and this the more eagerly, in proportion to the prejudices they have early imbibed against a government they think oppressive: they grudge to contribute to the support of a state that threatens to abridge their liberties; and discontent prompts them to enquire by what means they can most safely give vent to their revenge. They make a virtue of their necessities, grow frugal, either make a shift without, or supply by their own industry, many articles of commerce, the product of the mother country: trade then begins to languish at home; the merchants will first feel the effects of this decay, the manufacturers suffer next, but without knowing the cause. The landed interest then finds itself embarrassed; yet how few are able to trace up the cause of this general distress! The remotest parts of this kingdom already feel, and will yet feel more dreadfully, the fatal effects of such an unhappy conduct.

Far from charging the authors of these unhappy effects, with a design of *oppressing* the Americans, I am only recounting the effects ensuing from their conduct.

duct. That the Americans think themselves *oppressed*, or designed to be oppressed, is most certain: witness the universal opposition to the late intended regulations on that continent.

Let us view what must happen amongst them on this occasion: children and youth are disposed early to imbibe the language and sentiments of their parents; they remember, during their lives, and are often ruled by, the passionate dictates of their forefathers. What a prospect this for Britain! One ill-advised, unnecessary act, has embittered the minds of almost all the inhabitants of America. The youth will receive the tincture, and it is needless to expatiate on the effects. An age will not expunge the unhappy impressions:

—*Servabit odorem*

Testa diu.

He, who by wrong measures, and imprudent counsels, alienates the affections of the people from their sovereign, is the greatest enemy to the happiness of the king, and the prosperity of his subjects: and the more universal the disaffection, and the more remote the subject from better information, the greater is the detriment. It is laying a sure foundation for independency in the colonies, and involving both them and the parent in discontent and ruin.

Thousands of manufacturers are already turned out of employ; multitudes soon must follow. The landed interest must then support them, or they must perish. Thus, in hopes to save a few pence in the pound, at the expence of America, have we saddled ourselves with an additional poor's rate of ten times the amount, and ruined our commerce, till wiser measures bring it back to its former channel.

Should any ambitious neighbouring power embrace the present juncture to revenge their past disgraces, can we be sure that the Americans will immediately forget their animosities against us, and join with their former zeal in our assistance? To act against us they never will, till oppression, grievous oppression, convinces them, that they are no longer deemed the offspring of Britain, and have no longer to expect the inheritance of their ancestors, British freedom, and a British king for their sovereign.

The administration of government in America has hitherto, for the most part, been easy to the subject. Such of the governors sent amongst them, who were acquainted with men and things, held the reins with ease and gentleness; they saw that, for the most part, the early colonists were such as inclined to republican sentiments; they saw that their remote, independent, unconnected state, favoured those sentiments, and that they submitted to restraint with impatience. Indeed, if soils, climates, situations, dispose mankind to peculiar habits, the genius of America seems to favour freedom. The aboriginal natives of the northern part of this hemisphere, are, perhaps, the most free and unrestrained

of

of any in the known world. To unveil at once the most unfavourable parts of monarchy to such a people, was certainly the most unlikely means of gaining the good opinion of subjects almost bordering on republican madness. To restrict their foreign commerce, by which they subsisted; to impose domestic taxes, without their concurrence, whilst they were overloaded with provincial debts, contracted to support the British cause; to annihilate, instead of rectifying, their medium of commerce; to sink them at once, in their own opinion, from the full fruition of liberty, to the lowest state of conquered countries, was too hardy a step in a reasonable administration; and those who have the conduct of the helm at present, must feel the weight, the baneful influence of such fatal regulations.

A British parliament has certainly *power* to do many things, which they have no *right* to do. They have *power* to enact what laws they think fit, respecting any part of the British subjects; but still it is to be remembered, that reason is the supreme law, and any thing inconsistent with it, is void in itself. The distance of America renders it impossible for its inhabitants to be properly represented in a parliament of Great Britain. The very title of the parliament shews, that the Americans are yet no part of it; and consequently to subject them to laws, in the making of which they have no voice, and can have none, is striking at the root of our own constitution.

Let us look back to the discovery of America by English subjects; view their rise, progress, establishments, and connections with their mother country; and we shall soon observe, that those who advised measures of the kind hinted at, have robbed the crown of one of its most essential privileges, and seem to be guilty of little less than high treason.

An adventurer discovers an unknown country, unpossessed by any potentate, with whom either law or custom has established any formal connections; he treats with the native inhabitants, purchases a tract of country from them, returns home, and applies to his sovereign for leave to settle, and proposes terms of cultivation.

A charter granting possession, agreeable to the terms of possessing English property, and certain privileges to encourage the adventurer to settle in so remote a place, are agreed upon, and confirmed. His family, relatives, and friends, transport themselves to the distant settlement; confiding in the right of his sovereign to grant him the property, and the privileges of his birthright—laws for the good government of the settlers, consonant to the laws of their native country. This confidence acquires by time the full influence of a fundamental principle, and occupies the minds of those to whom it is granted, with a degree of force not easily to be obliterated.

They think that if the charter constituting these regulations is defective, it may soon become a doctrine, that their property is also precarious; and that

every attempt to deprive the Americans of any degree of that freedom, which was at first granted them, unless some obvious tendency to malversation appears, may soon be followed, by taking from them the property and possession they enjoy by virtue of the same charter.

The Americans never seem to have disputed the right of the British parliament, to regulate their trade and affairs, so as to prevent them from interfering with the advantage of the mother country. They consider themselves as a part of that great *whole*, over which the British parliament presides, and in every reasonable instance yield to its authority. They pay duties, imposts, taxes laid upon their commerce agreeable to the laws of navigation. They trade to some places, omit trading to others; they export goods to one part of the world, and not to another, just as the laws established for the good of the *whole* direct; and this is but their reasonable duty.

The parliament of Great Britain has, most undoubtedly, a right to direct all this; and every transgressor against regulations, calculated for the good of the whole, and to restrain one part of the community from availing themselves of any circumstances in their situation that might tend to the detriment of another, is justly punishable.

But if we step further, May not that right at least be doubted? I am an Englishman, a British subject; the parliament has power to deprive me of any part of my property they think fit, and to subject me to every possible degree of misery and wretchedness; but if I have done nothing to deserve it, *power only* gives them no *right* to do it.

If I mistake not, when contributions are to be raised in a conquered country, the vanquished have always liberty to raise the sum demanded, in what manner they think convenient. And ought our colonies to be placed in a worse situation, than countries subdued by the force of arms? deprived of the privilege of raising money expected from them, for the aid of government, in the manner most easy to the individuals who must pay it? Nothing can afford stronger proofs, both of the reasonableness and necessity of leaving this power with the colonies, wherever the right may be lodged, than the acts that have occasioned a discontent through the colonies, next to madness, a universal stagnation of commerce, and the ruin of a multitude of industrious British manufacturers. A trifling instance will suffice to demonstrate this assertion; to enter into a full detail of all would exceed my leisure and abilities.

The stamp act directs the like duties to be paid for the public news-papers, and the advertisements contained in them, as in England. Heretofore, as no duty was paid, an American could advertise the loss of a cow, a horse, or a hog, and sometimes things of less value, at a little expence. The news-papers being cheap, came into many hands, and strays, in their wilderness country, were often by this means recovered. But all this is now at an end. The

news-

news-papers will be dropped in many places; in others, the price of circulating intelligence will become too expensive; and thus the poor American, who needs it most, has it least in his power to recover his substance, through this easy and effectual means. Were these duties only framed to restrain the liberty of the press in America, the operation of this law will do it effectually, and the precedent may in future times be pleaded nearer home.

It may seem to many, that charters for American governments were granted without much consideration, without regard to any thing but the petitioner's request. But this is a great mistake. It was expressly covenanted, that the adventurers should perform certain conditions on their side; in consideration of which, they were to enjoy certain benefits. With what right then can any man, or any body of men, interfere in such solemn compacts, unless sufficient cause is administered? What discouragement would hence arise to future settlements! what diminution of regal authority! an authority wisely supposed ever to subsist in the crown, for public benefit.

This way of reasoning seems just to the writer, as well as to the Americans in general who live under these grants, and who little suspect that the tenure of their property, the enjoyment of their liberties, the possession of every thing they esteem valuable, is entirely at the mercy of men totally ignorant of their condition and abilities; nay, many of whom may justly be supposed, from what has happened, to be altogether ignorant that they are the descendants of Englishmen, claim the like privileges, and look up to the same royal sovereign for protection.

Canada, and its dependencies, a vast country, superior in extent, equal in number of inhabitants to some ancient empires, that make no contemptible figure in history, is a conquered country; it belonged to the French, was a thorn in our sides, and was at length wrested from them, by great military virtue, and the permission of Providence. Conditions of surrender were stipulated, and these stipulations are to be the basis of all regulations in that country. If no express agreement was made, that they should enjoy the British privilege of having no monies raised upon them, but by the consent of their representatives, the British parliament have a *right*, as well as *power*, to make what assessments upon it they think fit. But it is apprehended, that the case of our colonies sprung from ourselves, and living under charters expressly granting them particular exemptions, is very different. Otherwise there would be no advantage to have been born the subjects of Great Britain, since they must yield to the same harsh terms which men subjected by the sword, have been subjected to; be governed by laws, and their property disposed of by regulations, in the making of which they have no voice, can give no dissent.

The public prints inform us sufficiently of the disquietude which these imprudent measures have produced: the administration, doubtless, have yet more perplexing

perplexing accounts; riots, tumults, and every species of anarchy, that people, mad with the prospect of oppression, can exemplify.

What can be done under such circumstances? To reverse these fatal acts and regulations, may seem to encourage a licentious rabble to oppose every act of power, however conducive to the public good, if it squared not with popular opinion. To persevere in a resolution to subject such untractable spirits, even by force, if it was necessary, would be next to distraction. Our wise neighbours already see this, and rise in their demands, increase in their obstinate refusal to our claims, in proportion to the prospect of this disunion. A dangerous precedent on one hand, as some may think, to reverse without trial an act of the supreme legislature: on the other, a ruinous civil discord. These are among the unfortunate legacies to the present administration.

It may perhaps be replied, that the Americans ought to be reduced to reason by any means, rather than the supreme authority of a British legislature should be treated with opposition or contempt: that they ought to have remonstrated against grievances when felt, and not to revolt against government for imaginary evils. All this is granted. But let us for a moment place ourselves in their situation.

Many of these people fled from tyranny and oppression, and took all the care they could, in the charters they obtained, to have as much freedom, as the genius of our constitution could allow.

Their sons have been taught to esteem these privileges as the most sacred deposit, and in defence of which they ought to risk every thing.

When the resolutions of parliament were sent over to America, and the inhabitants found the privileges which they deemed most sacred, were to be abolished for ever; what could be expected from persons bred up almost in independency, and full of republican sentiments? They were struck with the deepest astonishment; they attempted to remonstrate—some with as much temper as could be expected from people in this situation; others, with such evident tokens of resentment, as plainly indicated that reason had for the time forsook them.

But when they were informed by their agents, that their remonstrances could not be heard; that the measure was finally resolved on, without their being allowed to explain themselves in any manner; and that they had no part left, but to submit; the rage of the populace broke all bounds, and they have proceeded to such lengths, as their warmest advocates can by no means justify.

Let it likewise be remembered, that when the stamp duty was laid upon this nation, it was only one quarter part of the present. It has risen by degrees to what it is, as the riches of the country could bear it.

America was by no means so rich as England, when this duty commenced; yet the people are taxed not only as high as the English, but as much higher,

as a shilling is more valuable in America than in England, which in some provinces, I apprehend, is a third, if not one half more; that is, a shilling sterling in England is equal to 1s. 6d. or 2s. in the colonies. So that at one step, not only a tax is laid upon them without their consent; but, considering their poverty compared with England, and the difference of exchange, the load is heavier than this country would ever submit to. A convincing proof, how necessary it is that all internal taxes should every where be raised, only by the representatives of those who pay them!

It has been alleged, and most weakly alleged, that the Americans are represented, as much as copyholders, as many large towns and populous communities in this kingdom. It is amazing how such an opinion could possess the mind of any man of reflection. There is not a man in this kingdom, be his condition ever so low in life, who may not be said to have an influence in the choice of our representatives, though not worth a single shilling. He can at least make part of the mob, and huzza for the man he likes. But if he has property, his influence rises in proportion. There are people in this capital, who are neither freemen, nor freeholders, yet have it in their power greatly to affect the choice of representatives in this city, as well as in many parts of the nation. Can an American do this? How vain was the sophistry! how flimsy the deception! What an affront to the understandings of sensible people!

It has been proposed by some, that the colonies ought to be represented in the British senate, by members chose by the Americans. This indeed proves, that they are not yet represented there, in the opinion of those who make the proposition, and this is some palliation to the present extravagancies: but the writer thinks they never should be; and that it is the mutual interest of the colonies, and Great Britain, that no deputies from North America should ever have a seat in the British senate.

Can they send any deputies, who will at no time give up their own, or the British liberties, for a place or a pension? The more distant they are from their constituents, the more they are exposed to temptation. The less property these deputies have, the less will be the purchase of their votes. Will Americans, who are able to serve their country, and of independent fortunes, be at all times willing to risque their lives across the ocean in this service? Will the distance admit them to consult their constituents, during the sessions? Must we have an auxiliary army of American pensioners, in conjunction with some other distant members, not less purchaseable, to bear down the sons of freedom and independence in the British senate, when perhaps the whole fortune of liberty is at stake? No. We see enough of the effects of venal poverty at home, without adding to its influence from our colonies.

In forming our opinions of the degree of subjection to be expected from the Americans, we should place ourselves in their situation, and consult reason, the laws

laws of nature and nations. To form our ideas of this point, from precedents to be found in English history, is vain. England never had a like precedent. When Magna Charta was first established, where were her colonies? When the people used to meet themselves, to transact their own business, but found it necessary to chuse representatives in parliament, what was America? The wisdom of those who first granted charters of colonization, saw the impossibility of the colonies being represented in the British legislature, by any other than the king's person, who, as a part of the legislature, was liable to have his advisers called to account, if the British subjects whom he therein represented, were not governed as they ought to be.

A governor, the king's representative, resides in every province. No laws can be passed without his consent; nor are these laws valid till they have received the royal approbation at home. Thus the allegiance of the Americans is at once secured to the mother country, and care is taken that no act shall be passed in any one government, that shall be detrimental to another, to the whole, or to Great Britain, by forming any legal confederacy amongst themselves to her disadvantage.

It is well known, that the powers of the king's representatives are such, that if any colony proves refractory to the just desires of the crown, there are many legal expedients by which a governor can awake the people to reason.

Suppose the king's ministers had advised him to instruct the American governors, that a stamp act would be useful to the respective governments, and to apply to their several houses of representatives on this occasion, laying before each the general plan upon which they were to proceed. Would this have been refused? Most probably not. They would have seen their own security, and the good of the state, united in a stamp act, conducted by persons acquainted with the state of the country, and ability of its inhabitants; which, permit me to say, are not so generally, so fully understood in this country, as is necessary for our own sake, as well as theirs: this I assert not at random, or mere conjecture, but from daily observation and experience. Should America in process of time become the greater country, and the residence of a monarch of its own; should a parliament there be formed of representatives wholly Americans; should this legislature take upon them to tax Great Britain, and have the power in their hands to compel its submission, or to reduce it to extreme distress, how would this country like such treatment? They would pay obedience no longer than they could help it; would think of the Americans, precisely as they think of us; that we at such a distance must be wholly unacquainted with their real state; that the acts made concerning them gave evident proofs of it; and that it would become them either to stand by themselves, or look out for less rigorous masters.

I am not ignorant that endeavours are used, to prompt those who are to decide

cide on these important affairs, to exert what they call *authority*, and to *enforce* the acts that have given such universal discontent through America, and opened a prospect of ruin to thousands in this country, who deserve a better fate.

Let us trace the effects of this counsel. The Americans, they say, will soon submit to this, and every other act the British parliament think fit to prescribe. But are they sure this will be the result? Admit however that these gentlemen are in the right, that the Americans quietly submit to parliamentary authority; yet they must likewise admit, that the Americans in general are disgusted with a law, that deprives them of what they plainly tell us they think their birthright. Whether they think right or wrong, is nothing to the argument; it is enough that this persuasion is general: force may prevail upon them to act against their persuasion; but will it follow that force will change their opinion? By no means: *rigour*, and *enforcing*, may possibly oblige them to submit, till it is in their power to emancipate themselves, not from internal taxes only, but from all foreign jurisdiction; and this event will undoubtedly approach the faster, as the means employed to force them to obedience are more disgusting and compulsory.

How much more advantageous would it be to this nation, could the legislature unite in this single consideration: By what means Great Britain can most effectually render it the interest and inclination of her colonies, to continue not only dependent upon, but inviolably attached to her.

It is hard to gain a dispassionate hearing, against prejudices that flatter at once our vanity and our avarice. If the stamp act is repealed, we encourage the Americans to shake off all dependence: this is the general language, I own, and am sorry for our own sakes that it is so, because it betrays our vanity and selfishness. The most sanguine abettors of *enforcing*, cannot vindicate the act itself, nor urge one plea for its necessity; at least I have neither seen nor heard any reasonable arguments on this head. If then an act has been passed by the British legislature, that carries evident tokens of impropriety, would it not be more prudent to rescind such an act, and to convince the Americans, that they will ever meet with justice in the British senate, should they at any time be in danger of oppression by imprudent conduct; rather than persist in a mistake, because it has once been adopted, and hold out to them an example of injudicious adherence to errors once committed? What should we think of such a conduct in private life? Yet justice, equity, moderation, and good sense, are the same, whether they relate to the concerns of private men, or of states and empires.

In reflecting on this subject, one cannot but regret, that the geography and history of our colonies is so little attended to. It is not among the vulgar only, that we meet with persons who are totally unacquainted with the situation, produce, inhabitants, their condition, manner of life, their traffic and connections.

And

And this is the more inexcusable, as there are not wanting many useful Treatises upon these subjects; and were the public, or that part of the public which ought to be inquisitive after proper information, (as liable to become a part of the British senate, and empowered by the British people, the grand source of power, to decide on questions of the utmost importance to America;) I say, was this part of the public solicitous after information, in respect to these important objects, numerous occasions of it would daily present themselves.

How many people are there, and those too of no small figure, who know no difference between the inhabitants of North America, and those of the West India islands! They form their ideas of all, by the manner and appearance of a few, who have no resemblance to them in manners, way of life, or fortune. The British inhabitants of North America are of two sorts; those who live in the northern part of the continent, and those who inhabit the southern. Nova Scotia, New England and its dependencies, New York, the Jerseys and Pennsylvania, belong to the former division: Maryland may be divided between both; Virginia, the Carolinas and Georgia, are the other part. Of the late southern or northern acquisitions I say nothing, as they are yet very light in the scale of power. The inhabitants of the northern part live like our lower English farmers; they plough, sow, reap, and vend different kinds of grain, as the land they occupy and the climate permit—maize, wheat, barley, oats, pease, and the like rural produce. They raise cattle, hogs, and other domestic animals, for use and sale; also hemp, flax, naval stores, but yet in small quantities. Their summers are hot, their winters severe, and their lives are passed with the like labour and toil, and with the same impossibilities of acquiring more than is sufficient to maintain their families just above want, as the little farmers in England.

This they have in their favour: as land is for the most part cheap (a most certain sign of poverty) the young people can marry without much risk of maintaining themselves and their offspring. The parents can give a few cows, swine, and perhaps a few moveables, and help them to build a log house. Here the young couple sit down contented—they labour as their parents have done, are content with hard fare and mean cloathing. If they get enough to support them, they are satisfied; and if they can afford to have an English utensil, or English cloathing, they are rich. Here and there one applies to commerce, and settles in the next town, as in England. Fortune, aided by capacity and industry, raises him above the level, and he acquires the reputation of a considerable merchant, on a capital that would not furnish a chandler's shop in London. He is, however, a most useful member of society; he imports all the British manufactures he can, and vends them amongst his compatriots. The grower of the product, suppose it wool; the manufacturers, for there are many; the English merchant, the navigators, the American merchant;

chant; all are gainers by a poor wilderness American, the consumer. What a pleasing prospect for Britain, who will every day more sensibly feel the advantages of this commerce, unless by —— shall I call it their Evil Genius?— they are goaded on, to accelerate their own undoing, by oppressing the Americans!

Such is the way of life of the North Americans of the northern district. The inhabitants of the southern approach nearer to the West Indians. The land is capable of producing riches of another nature; tobacco, which has been the pleasing intoxication of many nations, is produced in Maryland and Virginia, chiefly by the labour of negroes. Rice is the product of the Carolinas—a happy succedaneum for bread; the proper, the most suitable support of hot countries: this likewise is raised, cultivated, dressed by the labour of negroes.

The wisdom of Providence is every where conspicuous to the attentive observer; and perhaps in nothing more, than in the different degrees of fertility of the different parts of the globe, most wisely adjusted to the necessities of the respective inhabitants. In the colder regions, the earth produces its stores with difficulty; strength and labour here are requisite to unlock the little treasure that the earth contains: but the bracing cold, the whetted appetite, the strong powers of digestion, derived from cold and penury, render labour easy, and the consequences pleasureable. Thus the dreary wastes of Siberia, the mountainous Alps, the bleak Highlands, the Cumbrian hills, the Yorkshire wolds, and Welch mountains, breed as hardy, as contented, and as useful a set of mortals, as the universe produces.

A few acres in Barbadoes, or others of the West India islands, properly cultivated, yield a crop, in value superior, perhaps, to one hundred times the extent, either in North America or in England; and it is just that they should do so. In these hot climates, if the Author of Nature had not dispensed the means of subsistence with a more liberal hand than in the northern regions, who could have subsisted there?

Were the possessors of lands in these hot countries obliged to labour for themselves, we should not see the many instances we do of idleness and extravagance: but the slave trade enables the inhabitants of these warmer regions, to procure, not only the necessaries and conveniences of life, but vast wealth, at the expence of people, who, born under a hotter sun, are found able to bear labour equal almost to a native of the north, in his own country, and compelled to work by fore and grievous stripes; men in all things like ourselves, colour and some circumstances of form excepted, torn from the tenderest ties of nature by violence and fraud, to drudge in servitude during the residue of their days, without hope of redemption!

The wealth accruing from the sweat of these poor wretches, who sooner or later may be permitted to become the dreadful executioners of slow-paced vengeance,

vengeance, has unhappily fixed in the minds of many here, an idea that the West Indians, and North Americans, are in the like situation, in respect to the means of acquiring riches, and possessing them; a mistake which an attentive consideration of the premises may perhaps contribute to remove.

For as the northern people of America trust to their own industry, so the southern inhabitants are rich in proportion to the number of slaves they possess. In the former, all are low and middling people, the sure support of any country; none are great or rich. In the latter, there are few middling people; a very few are considerable; the rest are below the middle class in general.

The conduct of these people, I mean the inhabitants of the southern district, when they arrive in England, approaches nearer to shew and extravagance, than the northern inhabitants; and has added to the general mistake in this country, that the Americans are rich. The conduct of the West Indians has perfected this idea. Bred for the most part at the breast of a negro slave, surrounded in their infancy with a numerous retinue of dark attendants, they are habituated, by precept and example, to sensuality, selfishness, and despotism. Of those sent over to this country for their education, few totally emerge from their first habits: view them as sons, husbands, fathers; as friends, citizens, and men; what examples! Splendor, dress, shew, equipage, every thing that can create an opinion of their importance, is exerted to the utmost of their credit. They are thought rich; and they are so indeed, at the expence of the poor negroes who cultivate their lands, could they be contented with mediocrity.

If people of quality and condition would study the geography and state of our colonies; would they give themselves the trouble of distinguishing their different situations; it would prevent them from confounding together circumstances extremely opposite; from inferring, that because an opulent West Indian vies in glare with a nobleman of the first distinction, therefore a poor American farmer is able to bear the same heavy load of taxes, or ought to be placed in the same scale of ability.

In a word, the inhabitants of the West India islands are in general the reverse of the northern North Americans: whilst these are poor, laborious, contented with a little, examples of diligence and frugality, the best riches of a state—the West Indians are too often the reverse. Much indeed is to be allowed for the different climates. Heat enervates, it creates sensuality, and urges to contrive every means of gratification.

Another circumstance has likewise contributed not a little to establish an idea of the riches of North America; which is, the known hospitality of these people in general to all British strangers. Vying with each other who shall afford their guest the most hospitable entertainment, they have unfortunately rivetted an opinion in travellers, that they are rich, only because they are generous to excess.

But

But leaving this ample field to others, who have more leisure, and greater abilities, I shall here remark, that there are too few, who have hearts sufficiently dilated to conceive, that a conduct founded on noble, generous, upright principles, is the glory of man, and invariably procures him every blessing compatible with his situation. A fact of sufficient authenticity will perhaps illustrate this assertion, and at the same time point out the mark we should aim at in the present interesting situation of our affairs :

When the Roman army was shut up in the Caudine forks, the wise Samnite, with a thorough sense of this principle, advised his son to permit the Romans, without injury, to retreat from the danger in which they saw themselves irretrievably involved.

This displeased the haughty general and his army ; the wise old man then advised the total destruction of the Roman army.

Neither of these alternatives were pursued : selfishness and pride presented a middle way, that ended in the destruction of the nation. The Samnite leader, flushed with the success of his machinations, determined to enjoy the pleasure of a triumph. He gave the Romans their lives, at the expence of their honour. The insult was too great for the Roman people to forgive ; they vowed revenge, and hoped, though vainly, to blot out the remembrance of their disgrace and perfidy, by the extirpation of the Samnite people ; which, contrary to justice and humanity, they effected.

Let us profit by this lesson ; the cases, I own, are not parallel, but yet the moral may be of use to us. Three ways are proposed to extricate ourselves from the present perplexities. The first, to enforce the stamp act ; the second to suspend, and the third to repeal it.

The first seems like the Samnites opinion, to destroy the Roman army totally then in their power. The Americans, most probably, will not give up their claims without bloodshed ; and whoever suffers, the king by that loses a subject, and the affections likewise of many more.

To suspend the act, seems to be holding a yoke of disgrace over them, which, though they may bear at present without marks of impatience, will only prompt them to make the quicker strides to absolute independency.

A repeal of the stamp act, will convince the Americans so fully of our equity and moderation, that they will no longer suspect us of designs against their freedom, their privileges, or their interests. They will be sure of redress, if grievances arise ; and will bear them patiently, till they can be heard.

Remember, my countrymen, that the Americans are not a conquered, but a free people, descended from freeborn Englishmen for the most part ; and those who are of another progeny, have acquired the like sentiments, by proximity and acquaintance. They are people of the like passions with ourselves, and look upon oppressive power with the same spirit of intolerance ; while their generosity

nerosity and affection to those who treat them kindly, is, like the region they inhabit, vast, and whose limits are hitherto unknown.

The wisdom of parliament may nevertheless, in time, discover such means of perfect and stable connection with the colonies, as may secure a just authority over them, and at the same time preserve inviolable the privileges and immunities, purchased by our brethren in America, at the expence of cultivating a wilderness for our advantage.

And indeed, by the prudent policy of those who planned or granted the several charters, the task of securing the dependence of the colonies, is rendered much less difficult to government, than it might have been, had the charters been uniform. But by granting distinct privileges and establishments to the several provinces, each has acquired an opinion, that its own is the most perfect, and would not willingly exchange its condition, or communicate its *peculiar*, with any other colony. Thus they are, and must long remain, not only *unconnected*, but in some cases *opposites*, till the prospect of some common danger appears, and forces them to unite in their common defence, and build up a potent and formidable confederacy.

If we permit the Americans to trade as they have done; if we permit them to raise every kind of raw materials, of which we have need, either for use or commerce; if we render it their interest, by such means, to be dependent upon us, they will be so continually.

If we promote scholarships for Americans in our universities; give posts and benefits in America, to such Americans who have studied here, preferably to others; if the government permits such youth as come to Europe, on account of their studies, to come over in the king's ships *gratis*, we shall still unite them more firmly. The Americans, by mixing with our own youth at the university, will diffuse a spirit of enquiry after America, and its affairs; they will cement friendships on both sides, which will be of more lasting benefit to both countries, than all the armies that Britain can send thither.

If such be the conduct of this nation towards her colonies, she will ever possess their affections; the product of their labours will center here; their power will be subservient to our command; and a force will be generated, Providence permitting, superior to what any country now possesses.

the first of these was the discovery of gold in California in 1848. This discovery led to a great influx of people into California, and the state became one of the most populous in the Union. The second of these was the discovery of gold in Colorado in 1859. This discovery led to a great influx of people into Colorado, and the state became one of the most populous in the Union.

The third of these was the discovery of gold in Nevada in 1859. This discovery led to a great influx of people into Nevada, and the state became one of the most populous in the Union. The fourth of these was the discovery of gold in Idaho in 1860. This discovery led to a great influx of people into Idaho, and the state became one of the most populous in the Union. The fifth of these was the discovery of gold in Montana in 1862. This discovery led to a great influx of people into Montana, and the state became one of the most populous in the Union.

The sixth of these was the discovery of gold in Wyoming in 1869. This discovery led to a great influx of people into Wyoming, and the state became one of the most populous in the Union. The seventh of these was the discovery of gold in Utah in 1871. This discovery led to a great influx of people into Utah, and the state became one of the most populous in the Union.

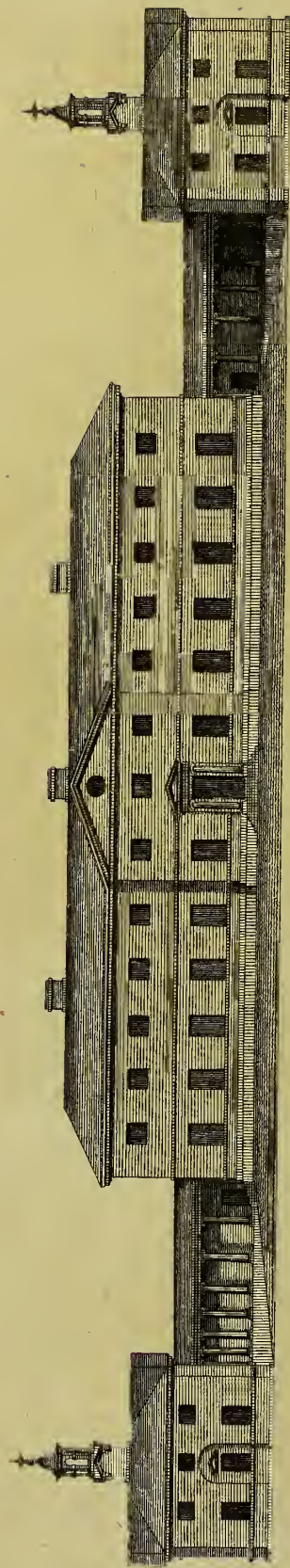
The eighth of these was the discovery of gold in Arizona in 1876. This discovery led to a great influx of people into Arizona, and the state became one of the most populous in the Union. The ninth of these was the discovery of gold in New Mexico in 1878. This discovery led to a great influx of people into New Mexico, and the state became one of the most populous in the Union. The tenth of these was the discovery of gold in Texas in 1880. This discovery led to a great influx of people into Texas, and the state became one of the most populous in the Union.

The eleventh of these was the discovery of gold in Oklahoma in 1889. This discovery led to a great influx of people into Oklahoma, and the state became one of the most populous in the Union. The twelfth of these was the discovery of gold in Kansas in 1890. This discovery led to a great influx of people into Kansas, and the state became one of the most populous in the Union.

The thirteenth of these was the discovery of gold in Nebraska in 1891. This discovery led to a great influx of people into Nebraska, and the state became one of the most populous in the Union. The fourteenth of these was the discovery of gold in Iowa in 1892. This discovery led to a great influx of people into Iowa, and the state became one of the most populous in the Union. The fifteenth of these was the discovery of gold in Missouri in 1893. This discovery led to a great influx of people into Missouri, and the state became one of the most populous in the Union.

Continued from p. 10

1880



ELEVATION of the House at ACKWORTH.

A

L E T T E R
 TO A
 FRIEND IN THE COUNTRY,
 RELATIVE TO THE

INTENDED SCHOOL, at *Ackworth*, in *Yorkshire*.

IF Dr. FOTHERGILL's life had not been distinguished by a succession of great and good actions, the establishment of Ackworth school is of itself sufficient to endear his memory to distant posterity, and enroll it with the illustrious benefactors of mankind. Capacious minds, habituated to the survey of great objects, are sometimes negligent of little ones; whilst those which have been confined to minutiae, are not disposed to expand and amplify: they discover partial defects, without tracing the great outlines of the whole; and, being timid without judgment, and doubtful of what is not exemplified, they are the more apt to censure new, grand, and important designs. To enlarge the views of these microscopical observers; to remove prejudice, wherever it should exist, against the execution of this great establishment; to explain its utility, and to promote its successful and permanent support throughout the religious society of which he was a member; appear to have been the laudable motives that prompted him to write the following Letter.

Editor.

A LETTER

A
L E T T E R
T O A
F R I E N D I N T H E C O U N T R Y.

Dear Friend,

THY inquiries respecting the Intended School at Ackworth, are so similar to many which I have received from various quarters, that I find myself disposed to draw up such an account of the rise and present state of this affair, as I hope may enable thee to explain, to every sensible inquirer, the intentions of Friends in this establishment.

And I think myself the more obliged to take this task upon me, though sufficiently occupied in other matters, as I am so far the author of this undertaking, as to have proposed it to the consideration of the Society.

I do not mention this circumstance, as designing to derive from it any importance to myself, but as I wish it to be considered as proceeding from a single, upright view, if I do not greatly deceive myself, to promote the benefit of that part of our body, which is justly entitled to our assistance, viz. those below the middling, in point of circumstances. Many of these are not the least valuable part of our profession, because amongst them are often to be found such as are truly religious, and therefore worthy of our regard and attention. Excellent is the wise man's prayer: "Give me neither poverty nor riches; feed me with food convenient for me, lest I be full and deny thee, and say, Who is the Lord? or lest I be poor and steal, and take the name of my God in vain."

I need not here recapitulate the abundant care, and the many endeavours that have been used for the education of Friends children. We have many
schools

schools for the education of youth amongst us, and many very deserving school-masters, in various parts of this nation, where the children of those who are in affluent circumstances receive a competent share of learning: and that those who are of less ability may partake of the like benefit, is the object of the present institution.

It is well known to many, that the laborious occupation of school-masters is seldom considered as it ought to be, nor are they, so generally as might be wished, recompensed according to their deserts. In promoting the present design, I believe it is very generally the mind of Friends, to prevent them from suffering by this establishment; and I hope it will be practicable to draw such a line between those who are the proper objects of this establishment, and such whose circumstances allow them to send their children to the present schools, as will give no just cause of complaint.

The children of Friends not in affluent circumstances, are the objects of Ackworth School; the children of such persons, as must either provide for their offspring a very cheap education, or none at all. And there is great reason to believe, that the inability of many Friends to make such provision, or to find any means of obtaining a safe education, has been the occasion of keeping their children at home, where it was impracticable to keep them at all times from corrupt company.

Fully apprized of these circumstances, and many others relative to this subject, which it is unnecessary to mention in this place; having likewise, in concert with other Friends appointed by the Meeting for Sufferings, taken much pains in endeavouring to form some proper plan to remedy the defects; and the recommendation of the Yearly Meeting of 1777, not only to the Meeting for Sufferings, but to the Society at large, to unite in forming some practicable plan for the education of our youth, being often in my mind, I frequently considered this subject, with a warm desire to contribute as much as in me lay to promote so necessary a purpose.

Whilst I was in Yorkshire the same year, mention was casually made of Ackworth hospital; that it was on sale, and would probably be sold at a very moderate price, compared with the sum that it had cost. Though I had not seen the building, I had seen and considered a plan of the house, and learned from that, and from the report of many who had been on the spot, that the building, the situation, the healthfulness of the country, the plenty of provisions, and the vicinity of many valuable Friends, were such, that if it could be purchased, and properly endowed, it might, in many respects, answer the intention of Friends, and lay the ground-work of an useful and permanent establishment.

For the information of divers, who may not be acquainted with the nature of these premises, it may be necessary to observe, that after the setting on foot the
hospital

hospital for foundling children in London, the public had great expectations of its utility; large sums were subscribed, and money likewise was granted by parliament, for erecting proper buildings for the reception of great numbers of children. A large hospital was built in London, another near Shrewsbury in Shropshire, and this at Ackworth, as appendages to that in London, and under the same direction.

The Friends whom I consulted, on my return to London, thought it a matter of such moment, as to deserve attention; and in pursuance of their opinion, inquiry was made concerning the price. I was given to understand that it was fixed at £.7,000; and, in a short time after, was informed, that £.6,800 was offered for it by some other person. The Meeting for Sufferings was then consulted, and the state of the affair submitted to their consideration. They wished to have had the matter kept open for the deliberation of the Yearly Meeting, but this was precluded by the unexpected offer of another purchaser.

A number of Friends, in their private capacity, generously stepped forward, with an offer to bear the Meeting for Sufferings harmless, should the ensuing Yearly Meeting decline the purchase. This being accepted, a contract was made, and the matter reserved in this state, for the deliberation of the Yearly Meeting in 1778.

A Committee, consisting of one Friend out of every county, together with the Committee of the Meeting for Sufferings, with any others who chose to attend, was early appointed by the Yearly Meeting, to take this matter into consideration. To this Committee, which was full, and attended by many not appointed, according to leave given, the whole business, from its beginning to that time, was fully explained, and the inquiries and doubts proposed, answered, as it appeared, to general satisfaction.

After various Meetings of the Committee, a report was agreed to, recommending the purchase, and proposing that a subscription should be set on foot, during the sitting of the Meeting, for this purpose, by donations, by annuities on two lives at five per cent. per ann. and by bills of admission at eight guineas each. After deliberate consideration, the report was received by the Yearly Meeting, and the subscription proposed was begun, and strongly recommended to the counties.

The great unanimity that prevailed in the several sittings of the Committee, apparently proceeding from a just sense of the want of some such establishment; the cordial, though not hasty concurrence of the Yearly Meeting with the report of the Committee; and the generous exertions of many Friends, in consequence of this concurrence (upwards of £.4,000 having been subscribed in the space of three or four days) I own afforded me such an indication of the propriety of this proposal, that it dispelled the doubts I had entertained about it:

having been, on the one hand, solicitous not to be instrumental in engaging Friends in an expensive and fruitless undertaking; and, on the other, afraid of losing an opportunity, not likely to be again recovered, of promoting the intentions of the Yearly Meeting, and the benefit of those who were the immediate objects of their attention, in so satisfactory a matter.

From this time, I confess, I have felt very little discouragement, notwithstanding the labour and care that must attend the settling of this extensive concern. Is there any thing of great value, in this life, that doth not require proportionable care and labour to obtain it? I persuade myself, we are making provision, not merely for the *subsistence* of great numbers of children of both sexes, in a safe and healthy retreat, but are likewise providing for their *orderly* and *christian education*. Too few are the parents who can honestly say, that "they train up their children in a godly conversation; in plainness of speech, "behaviour, and apparel; and in frequent reading the Holy Scriptures." Here, we trust, due care will be taken, both of their principles and conduct.

From what I can learn, it does not seem that much backwardness, in respect to this affair, has appeared in any place. If it has not proceeded every where with equal alacrity, it seems to have been owing more to the want of due information, than any other cause. In various parts, Friends are zealously disposed to assist according to their abilities. The Committee appointed on this affair, by the Meeting for Sufferings, have received accounts, from various quarters, that Friends are proceeding with their subscriptions, conformably to the recommendations of the Yearly Meeting. Several sums have been received; subscriptions are carrying on in other places, and some Friends have offered themselves for several services. The Committee is preparing the necessary directions for the admission of children, and doing all that time and opportunity admit, to have every thing in readiness for opening the School at a convenient time.

It is agreed, that as the School is intended for the education, maintenance, and cloathing of children whose parents are not in affluence, that they shall be instructed in reading, writing, and accompts, as fully as the time allowed them will permit. Some useful employment may be provided for the boys, according as their age, strength, talents, or condition may require. Learning and labour, properly intermixed, greatly assist the ends of both, a sound mind in a healthy body.

The girls will also be instructed in knitting, spinning, useful needle-work, and in such domestic occupations as are suitable to their sex and stations.

I believe it is the wish of all concerned in this important affair, that by gentleness, kind and affectionate treatment, holding out encouragement and approbation to the deserving, exerting the influence of the fear of shame, and prompting the children to every act of kindness and beneficence one towards another, to bring forward into the Society and its service, a number of youth
who

who may have been made acquainted, under such tuition, in degree, with the discipline of wisdom.

Many children amongst us sustain a grievous loss, by not being early and properly made acquainted with the principles we profess. For want of this instruction, they become too easy a prey to the customs of the world; and those habitudes, which would be as a kind of hedge about them, and protect from many temptations, are thrown down, and all the allurements of vice and folly suffered to seduce their affections, to their ruin. When they cease to be distinguished from others, by their garb and deportment, they too often cease to be distinguished from the world by their morals, and the rectitude of their conduct.

The history of the rise and progress of Friends, their principles, their sufferings, and the indulgences granted them by the legislature, will probably make a part of this instruction, to the children of both sexes, as well as the general doctrines of religion and morality.

But above all, it is hoped that every opportunity will be embraced, of cherishing in their tender minds obedience to that principle of light and truth which is given us to profit withal. And, however necessary it is for all to be bred up in the fear of offending this pure inward spirit of truth, which naturally leavens the mind into a teachable submissive frame; yet, to those whose condition in life makes a just subordination a duty, a temper of this kind must be an invaluable blessing. Perhaps there is nothing in the common course of public education in the world, that so unfits men for that humble attention to the divine monitor within, that renders them such perfect strangers to the spirit of Christianity, and all its happy effects, as the cultivation of a bold unfeeling disposition, under a notion of promoting manliness and courage: it too often sets aside that great defence and ornament of youth, a modest ingenuous temper; accustoms them to throw off all the restraints of duty and affection, and at length to bid defiance to entreaty, admonition, and reproof.

In this place it is hoped that endeavours will be used to form in the children a temper widely different; equally remote from a culpable fear and servility, and an audaciousness that knows no respect for order or authority.

There is a circumstance in the bringing-up of Friends children, which has been, and yet is, of greater importance to them than perhaps is generally apprehended; and I mention it, as in the proposed institution it will doubtless be particularly regarded. To habituate children, from their early infancy, to silence and attention, is of the greatest advantage to them, not only as a preparative to their advancement in a religious life, but as the ground-work of a well-cultivated understanding. We are almost the only professors of Christianity, who acknowledge the use of this absolutely necessary introduction to Christian knowledge and Christian practice. To have the active minds of chil-

dren early put under a kind of restraint, to be accustomed to turn their attention from external objects, and habituated to a degree of abstracted quiet, is a matter of great consequence and lasting benefit to them. To this they are inured in our assemblies, and to sit in silence with decency and composure. Though it cannot be supposed their young and active minds are always engaged as they ought to be; yet to be accustomed thus to quietness, and initiated to curb and restrain the follies of their youthful dispositions, is no small point gained towards fixing a habit of patience and recollection, and a regard to decorum, which seldom forsakes those, who have been properly instructed in this entrance to the school of wisdom, during the residue of their days.

Did the subject of this letter admit of it, it would not be difficult to shew, from abundant authority, and reason itself, the vast aid afforded to the improvement of the human mind, by early habits of silent attention. The most ancient schools of philosophy taught and practised it; and the scriptures are so full of precepts on this head, as ought to remove every objection to this necessary duty.

As it must happen that, in many places, the children of those who are objects of my present consideration are destitute of such opportunities, by the remoteness of their parents situation from meetings; it is another call to the Society, to prevent, as much as possible, the loss arising from such circumstances. How many farmers, manufacturers, and others, are often under the necessity of sitting down in places at a great distance from a meeting? in which case, if they have numerous families, the most they can do may be to take with them the eldest, when the younger are left at home untutored in this most wholesome discipline, till the practice becomes a burthen to them.

To this consideration, it will not be improper to add another, which is connected with it; and that is, the want of opportunities of sending their children to Friends schools. By which means, if they have any learning at all afforded them, it is under the tuition of such as are mostly strangers to our principles; and the practices derived from them, plainness of speech, simplicity of manners, and that beginning of wisdom which is inspired by the fear of the Lord. On the contrary, they are liable to associate with such children as are unacquainted with all these things; taught to deride those who practise them, and live at large to appetite and custom. And how often does it happen, that the children of Friends in such situations, bred up with unprincipled licentious youths, form connections with them, to their own great hurt, the distress of their parents, and the loss of many a valuable member to society.

Ackworth, the place proposed for the reception of such children, is distant from Pontefract, the next Meeting of Friends, about three measured miles; too far for little children to walk, or to be conveyed thither if numerous. For this reason it is proposed to have a meeting kept in the house, both first days and

week days ; and for which purpose a large commodious room will be allotted : and as a great number of valuable Friends reside in the neighbourhood, it is not to be doubted but this little society will be favoured sometimes with their company.

After having thus explained the intentions of Friends in this undertaking, (which may, I hope, be of use to future generations, if properly supported, and conducted with that prudence and œconomy which have hitherto accompanied the management of our affairs) I will add a few remarks on such objections to this design, as I recollect to have heard mentioned or suggested.

The magnitude of the concern, at first view, seemed to be an objection of great moment with many : it deserves consideration. To make so large a purchase, endow it, govern the numerous family it is capable of admitting, with advantage to that family, and reputation to the Society, are indeed objects of great magnitude and importance.

In respect to the first part, the purchase, it is in a great measure already provided for, by the speedy and generous subscriptions already received.

Nor is the future endowment altogether unprovided for. I have authority to say, that, besides the means already employed for raising the necessary supplies, there is one Friend who has appropriated £. 100 per annum for five years certain, and £. 50 per annum in perpetuity, if the undertaking meets with the support he thinks it deserves ; and I doubt not but there are others who are alike disposed, by legacies and bequests, to give it stability and duration. I am satisfied that many Friends, now deceased, could they have foreseen it, would gladly have promoted such an institution in their wills ; and as little can I doubt, but others will rejoice in an opportunity that promises so many advantages to succeeding generations.

The good government of a large family is indeed an object worthy of the most serious attention, and fills every considerate mind with anxious concern for its success : but I trust there will always be found among us, such as are both able and willing to undertake the charge. We see many numerous schools that are managed without great difficulty. If a proper choice is made of persons to have the charge of this affair, (and I doubt not but those who are appointed to have the immediate care of it will pay all proper attention to this matter) such as they make choice of may improve by experience, and their abilities enlarge with the demands for their exertion.

It would doubtless contribute much to produce all the good effects intended, if some Friend of ability, experience, and reputation, prompted by an honest zeal to promote the benefit of this establishment, would take up his residence in the house (in which accommodations may easily be provided) as Treasurer, and take upon him the superintendence of the whole, in concert with the Committee who may have the immediate charge of this affair ; and there is little

reason to doubt, but under the inspection of such a Friend every thing would be conducted to its reputation. The consciousness of serving the Society, and the rising youth, in so interesting a situation, would be a sufficient recompence to a generous mind, for the care and fatigue attending so useful and honourable a station.

We meet with persons in other religious professions, who, from motives of benevolence, give up their whole time and attention, without fee or reward, on similar occasions. Such are the treasurers of many of the public hospitals, and other institutions; and we hope the like disposition to promote the general good, our numbers considered, is not less prevalent amongst us, than amongst other societies.

The extensiveness of the premises at Ackworth has been an objection with some Friends, as it creates an apprehension, that to fill the place with so numerous a family as it is capable of containing, would be impracticable; or, if it was effected, would be not less difficult to govern prudently, than to support effectually.

To this objection some reply has been already made; and if those who are uneasy on these accounts will be pleased to cast their eye on the annexed plan, they will observe that the building consists of three distinct parts; the centre, and the two wings. Should one part be found sufficient for the purpose, the others may be converted to other uses; or, should this step be found expedient, the materials may be disposed of. But the firmness of the building, and the durability of its materials, will allow the whole to remain in its present state without injury, till experience may have directed what shall be deemed most prudent in these respects. Many indeed are already of opinion, that the whole will be useful.

It has been alleged, that it might have been much more advantageous to the Society, could three or more schools on the like foundation have been settled in different parts of the nation: this at first sight may appear to be a reasonable allegation. It may be thought that small schools are more easily managed than larger; that much would be saved in sending children backwards and forwards; that many parents would consent to sending their children fifty miles, who would object to three or four times that distance; and, in short, that each school being under the guidance of Friends in the particular district, whose convenience it is to serve, its management would be inspected with more attention and success, than might be supposed to be the case with such an affair as the present.

But let us look at the probability, that such schools would be erected. Have we not seen the endeavours of the Yearly Meeting to obtain a much less encouragement, than would suffice for erecting and supporting a school capable of admitting forty or fifty children, rendered wholly abortive? For my own
part,

part, I am convinced by experience, that it may be possible to draw the attention of Friends to one considerable object, and interest them in its support, whilst lesser ones will be apt in a short time to disappear, unless we should discover a more lively zeal to promote such undertakings, than some late endeavours have made apparent. It may be objected, that there is one recent instance, which militates against this position, the school lately opened for the children of Friends in low circumstances, at Gildersome, near Leeds, in Yorkshire; which, by the generosity of the Monthly Meeting of Brighouse, who set it on foot, and the activity of the Friends who have the immediate care of it, has proved beneficial to many children, and even brought divers from great distances.

I readily allow the exception; and had there been much reason to expect any similar exertions, very probably the object of this letter would not have been thought of.

Notwithstanding the school at Gildersome has received a very generous support from Friends in that neighbourhood, and is thought to be conducted with great frugality, yet the managers of it have been obliged to raise the price from eight guineas to ten pounds; and though it is still very moderate, compared with other schools, yet it is found to be rather more expensive than is suitable to the circumstances of many.

If, by the liberality of Friends through the nation, the intended School can be rendered still less expensive than is at first proposed, the Friends who have set on foot the school at Gildersome, will have the satisfaction of seeing their own generous design carried more extensively into execution, and will see the children of those not in affluent circumstances admitted to greater privileges than their funds could afford, with satisfaction. I foresee that the erection and support of this school, must for a time prevent that at Ackworth from receiving those aids from the friends of that institution, which otherwise I am certain they would have been disposed to supply. Gildersome school has however given one convincing proof, that little regard will be paid to distance, when proportionate advantages may be expected.

There is another house for the education of poor Friends children, which may also be mentioned in this place, as it may seem to be an objection to my position; the difficulty of erecting a number of schools for this purpose. The house I mean is Friends school and workhouse at Clerkenwell, founded and supported almost solely by Friends of the Quarterly Meeting of London. As it is almost the only institution of this kind in the Society, it may not be improper to mention a few circumstances concerning it. Many well-disposed Friends, on considering the state of the poor in London, apprehended that many of the aged, as well as the children of divers, might be better supported, and more suitably educated, were they to be collected together in

one

one place, where every thing necessary for their well-being might be provided for them, more to their comfort than at their own habitations.

Accordingly, about the year 1700, this business was undertaken, and pretty generally and liberally proceeded in. It was so wisely conducted, that it drew many persons of note of other persuasions to visit it; and was at once the means of deriving credit to the Society, by the propriety with which it was conducted, and of prompting others to exercise a degree of the like attention.

Perhaps there is not an institution existing, upon which more labour, and disinterested endeavours, that every thing might be managed with order, œconomy, reputation, and general benefit, have been employed, than in this house: a Committee of eighteen Friends, chosen from the several Monthly Meetings, most part of them duly attending, meet once a month to transact the business of the house, besides the weekly visitors, who inspect the conduct of the family at uncertain seasons.

Under such management, it cannot be wondered at that this establishment should become considerable. The fund is, I believe, about £. 20,000, or near it, arising from the generosity and bequests of individuals in this metropolis, a very few instances excepted; in which sum is included a legacy of £. 3000, left by our deceased Friend, Devereux Bowley, of London.

In the progress of this undertaking experience has proved, that the benefits derived from it have not been, in every respect, adequate to the hopes and expectations of those who have been engaged in its support; too few of the youth herein educated, the number considered, having turned out useful or reputable members of society.

Two causes are assigned for this disappointment, which indeed appear to be very probable. The one is, that the boys have been permitted, on one account or other, to be oftener in the streets of this city than was to their advantage; such as being allowed, at certain seasons, to go to their friends and relations, not always the most exemplary in their conduct; by which means they learned ill manners, and worse practices, and returned to the house in every respect worse than when they left it: this however is now put a stop to. Another cause is, that a considerable number of ancient poor are maintained under the same roof; some of whom may have been brought thither, by deviating from the principles of our profession, and consequently not the most likely persons to set the children a commendable example. We need not any proofs of the difficulty of educating our youth in great cities, where evil communication ever abounds, and where the corruption of manners is almost unavoidable. The following instance, in a very populous city, is known to many:

To serve the rising generation, and promote its benefit, the sum of £. 3000 was generously subscribed by Friends, a house built, and an able, well-qualified master was procured. It was intended to be a day-school; but such was the

ill effect of the children mixing with others in going to and from the school, so much were they hurt by bad examples and bad company, that those who had engaged in the generous design, found it necessary to abandon it, merely, as it appeared, from this circumstance. Such is the necessity of preserving youth from the influence of bad example, if we hope to preserve them in innocence and simplicity.

The prospect of avoiding both these causes of disappointment, seems only obtainable in such an institution as the present; where, in the first place, every reasonable endeavour will be used, that none make a part of the family, whose conduct is not exemplary; and in the next, no opportunities will be afforded the children educated there, of mixing with others to their harm.

Another circumstance, that now strongly pleads for such an institution as the present, is, that the school at Clerkenwell, which has hitherto taken in Friends children from the country on easy terms, is now shut up to them.

This school was set on foot, and is supported, by Friends of the Quarterly Meeting of London; and as there are several sums of money lately bequeathed to this house, for the purpose of increasing apprentice-fees, and farther encouragement to such children of both sexes as may deserve it after a certain period, the whole of these emoluments will be such, as to keep the house constantly filled with the children of Friends in London: and Friends in the country must now be obliged to seek for some other place of education, for the children who need the assistance of their friends.

The distance of Ackworth from many parts of the kingdom, where Friends are more numerous than in others, is objected to on account of the unavoidable expence of conveying them from and to the places of their abode; but this expence will be greatly reduced, if the children are allowed to remain there such a length of time, as may enable them to receive competent instruction; the longer they are permitted to remain, the less burthenfome their conveyance.

The Committee I know have this matter very closely under their consideration, and I have reason to believe that every method will be adopted that can make this article as easy to all parties as the nature of the case will admit.

It will perhaps be urged, that many Friends may be unwilling to send their children to so distant a part of the nation. It must ever be a difficulty to affectionate parents, to lose sight of these objects of regard and attachment. But is it not daily seen, that parents in the most affluent circumstances, both amongst us and others, part with their offspring to the greatest distances, when the benefit in prospect for their children claims such a sacrifice? The schools of Friends in the North, and in the West of England, chiefly consist of children from the greatest distances; and they often remain at them, unseen by their parents, a longer time than perhaps may be the case at this School.

Besides,

Besides, have we not seen this objection totally removed, by what has happened at Gildersome, a place as remote from London, and the Eastern and Southern parts of the kingdom, as Ackworth?

Besides, the separation of children from their connections, is oftentimes of much consequence to themselves and their families, by preventing improper associations, or dissolving such as may have already been formed, greatly to the unhappiness of many an affectionate careful parent.

There is one objection of much weight, that naturally presents itself to the view of every considerate person, which is the situation of the times. This is most certainly a discouragement to every public undertaking, and to this in particular: but with the difficulties of the times, the necessity of some such provision keeps equal pace. Many may be obliged to accept of that help, which they once could afford to others; and one of the surest means, perhaps, of averting such necessity, will be to consider ourselves as stewards of the blessings we enjoy, and that by communicating to the wants of others, we are laying up provision against want ourselves.

Large contributions are not expected, where but little can be spared; and those who have abundance, we trust will not withhold their assistance. By the means of the bills of admission, many will have it in their power to lessen the difficulties of a distressed and numerous family, by contributing half, where the purchase of a whole one would be oppressive, and so in proportion. To descend into all the objections that could be framed, would be tedious to my friend. I believe we shall both be of opinion, that those who do not chuse to part with any thing, however commendable and necessary the occasion, will be found the most fertile in raising objections.

Hitherto there has been no reason to complain. When the matter was opened at the Yearly Meeting, and properly explained, Friends seemed to vie with one another in their generous efforts. This has likewise been the case, wherever the nature of the affair has been rightly understood.

If any doubts or difficulties occur to thee in this matter, I shall be ready to give any farther information that I can: and, on the other hand, if any hints occur to thee, that may tend to the more effectual completion of this design, I shall be very glad to receive them, and lay them before the Committee, who, I am satisfied, have nothing more at heart, than to fulfil the intentions of the Yearly Meeting.

I would again observe, that as we are now in possession of a house, built for the express purpose of accommodating large numbers of children, and with every conveniency for this purpose; where there is room for a variety of employments suitable to their ages and conditions, and where learning and good behaviour will be duly attended to; in a healthy country, plentifully

tifully supplied with fuel and provisions ; and, to crown all, under the inspection of many judicious valuable Friends, there is every reason to hope for success.

Application has hitherto chiefly been made for assistance in this undertaking, to such who are deemed to be in affluent circumstances. Those of the middle rank are always ready to give their proportion, on every suitable occasion ; and I doubt not, but many such are disposed to favour this undertaking, according to their ability.

Of one thing Friends in general may, I believe, be fully satisfied ; which is, that those who have stepped forward in this affair, have had nothing more at heart, than that by embracing an opportunity which might never again offer, they might contribute, as much as in them lay, to render the labour and care of the Society, during the course of many years, effectual for the safety and preservation of the rising and succeeding generations.

I am
Thy friend,

JOHN FOTHERGILL.

London, 24th 1st month, 1779.

A N

English Freeholder's Address

T O H I S

C O U N T R Y M E N*.

“ With but half of our natural strength, we are at war against confederate powers, who
“ have singly threatened us with ruin. Whilst we are left naked on one side, our other
“ flank is uncovered by any alliance. We are accumulating debt to the amount of at least
“ fourteen millions in the year.”

BURKE.

• Published anno 1780.

I Had proceeded thus far in the present Collection, when I met with the following pamphlet; had I been previously informed of its authenticity, it should have succeeded the Considerations relative to the North American Colonies, as being connected with the same political subject: however, as they refer to very different periods of the same unnatural contest, their successive connexion in this publication is less requisite.

I have already mentioned the intimate correspondence which had subsisted between Henry Zouch of Sandal and Dr. Fothergill, and this pamphlet is the substance of various letters from the latter to the former, immediately prior to the General Assembly of the county of York, held December 30th, 1779.

The late Marquis of Rockingham having fully conveyed to H. Zouch his sentiments relative to the proceedings of the Yorkshire Association; this respectable magistrate made the Doctor acquainted therewith, which produced the following letter:

“ London,

“ the 25th of the 4th month, 1780.

“ IT was very kind to communicate to me Lord Rockingham's letters, which I now return, with many thanks for the perusal of them. They confirm the high esteem in which I had long held him, for his engaging manners, the soundness of his judgment, and the integrity of his heart. Tho' a friend to liberty and the just rights of mankind, it is wise in him not to commit himself upon doubtful propositions, or which, yet at least, are crude and unascertained.

“ The paragraph relative to Lord S. is worthy of the writer. — Accept of my best wishes, &c.
J. Fothergill.”

N. B. The following is the paragraph in question; it is taken from a letter sent by Lord Rockingham to H. Zouch, dated March 23, 1780, and hath reference to the duel in which Lord S. had been just then engaged:

“ I had the satisfaction of seeing Lord Shelburne this morning. He has no fever, or any symptom to cause alarm.

“ A few old letters in his waistcoat pocket, impeded the force of the ball.—I need not say, that his conduct in the business was highly honourable. Men, in these times, must stand prepared for strange events. How necessary general union is become *!”

* No person who is anxious for the welfare of this country, can read the foregoing account without emotion. — The singular preservation of a man to whom this nation is indebted for an honourable peace, at a period when she was no longer able to oppose, with any prospect of success, the four greatest powers in the world, may be gratefully revered as providential. The impartial page of future history may unite in equal eulogy a Chatham, who raised the empire by a successful war; and a Shelburne, who saved it by a well-timed peace.
Editor.

and the people who have been the most active in the cause of the Revolution, have been the most active in the cause of the Revolution.

and the people who have been the most active in the cause of the Revolution, have been the most active in the cause of the Revolution.

English Freeholder's Address, &c.

and the people who have been the most active in the cause of the Revolution, have been the most active in the cause of the Revolution.

My Friends and Countrymen,

THO' I almost despair of rendering you much service, yet what little I can do, is due to the public welfare.

We all see and deplore the distresses of our country, and have still greater in prospect. I need not recount to you the several articles that make up the difference of what we *have* been, and of what we *are*.

To apprehend clearly the causes of this difference, and to endeavour to remove them, when found, is of much greater consequence to us.

The origin of our misfortunes hath been hitherto attributed to various causes; but we now seem in general to be clearly convinced, that they proceed from the *American War*.

To inquire into the justice or injustice of this fatal contest, is not my present purpose. Very sensible, and very upright persons, still differ much in their opinions concerning this matter. But, however weighty and important the consideration of it was at the first commencement, *now* there seems only to be one consideration left to us; how to get out of it, with the least possible loss and disgrace.

Having been intimately acquainted for upwards of forty years, not with the concerns of this or that province singly, but with them all, I soon perceived when the confusion began, that those who took the part of AMERICA against Administration, and those who supported the measures of Government against that Country, were almost total strangers to AMERICA, to the Country, and to its Inhabitants; many, to such a degree, as to be ignorant whence the people sprung; what language they spoke; what religion they professed; nay, of what complexion they were. This ignorance was almost universal; and the little of truth concerning them that was advanced, was mixed with so much falsehood and absurdity, and these became so rivetted in the minds of each party, that all reasoning was lost upon them.

I can safely aver, that many of the officers who early went over on this unfortunate business, have come back as utterly uninformed, in respect to the most practical points, almost, as those who remained here.

The knowledge of AMERICA was confined to the Merchants and Traders chiefly. It was a country talked of; but no people, save those immediately interested in its produce, knew anything about it. From the debates upon the STAMP-ACT, some little information arose, but this was forgotten in a few years.

The ISLAND of Virginia has been spoken of in a Court of Judicature, by a learned pleader; and similar instances of a general ignorance, a criminal one, of this vast region, pervaded the Country, the Universities, the Courts of Law, the Legislature in too general a manner, and even Administration itself.

I have dwelt on this topic perhaps longer than may seem necessary, but I think it is impossible to account for the madness and folly of our conduct, on any other principle, than either consummate ignorance of the subject of contention, or judicial infatuation.

I do not lay this to the charge of one party more than the other; the generality on both sides have taken up their notions precipitately; means of information were not immediately at hand; and they contented themselves with such crude opinions as accident supplied them with. In such a general outline there were exceptions; but as these differed from the common fabric of the day, they were neglected and despised.

If we examine the speeches made by those whom we ought to consider as the best informed at this time, a person acquainted with AMERICA, the People, their Temper, their Resources, who views what they *have* done, what they *are* effecting, and what extent of country they inhabit; will see sufficient reason to believe, that the generality in this country are in a great measure ignorant of what most essentially concerns them to be fully and largely acquainted with.

It is with regret, that I am obliged to observe, that Administration is not so well informed, as they ought to be: not so much for the want of *means* of information, as to a habit of receiving *none*, but from such as they choose; most unfortunately for the public, I am afraid, that no information is palatable to those who ought to be rightly informed, but such as favours their inclinations. Three sorts of people have discovered their inclinations, and from the destruction of the *Tea*, nay, from the time of the *Stamp-Act*, have uniformly, and efficaciously supplied that very species of information, in abundance, which they found to be most acceptable.

First, The *English* Commissaries of the *Stamp* duties, forced from their employments with disgrace, made a merit of describing the *Americans*, as one man,

man, averse to Kingly Government. Their reports were heard with avidity; and in spite of that compromise, which took place on repealing the *Stamp-Act*, that nothing of the kind should be attempted, yet it was resolved to obtain a pepper-corn, which if refused, punishment should follow: it was unanimously asserted, that the infliction of it was no less necessary, than practicable.

When this pepper-corn was demanded in the *Tea* duty, to pay it, or not to pay it, became the question in AMERICA. Different sides were taken, and those who insisted on complying, were forced to leave their country; many of them, persons of note, of property, and known at home, I mean in *England*, which an *American* always was accustomed to call *his home*. These exiles were received with satisfaction; their accounts of the people fully believed; the hopes they offered became substantial; they were rewarded and provided for as well as the times would permit.

Unfortunately for this kingdom, I apprehend, we pay not less than 60,000 l. per annum for such kind of intelligence, all tending to demonstrate with one voice, that AMERICA is easily to be subdued; that more than half of the people wish to be under the dominion of *Great-Britain*; that the Congress is divided; and that a majority is soon to be expected on the side of *Great-Britain*. How often have we been assured, that *Washington's* troops were unclothed, unarmed, undisciplined, and starving? Yet, has he not baffled a succession of the ablest officers, and the best troops this country had to send, well appointed with every thing? What have they done? stayed till the officers were disgraced, the army reduced; their ranks partly filled up with *American* recruits, and new regiments formed of them; the nation loaded with taxes, and a series of evils that I will not recount. Such is the effect of misinformation!

To these deluded, vindictive, necessitous people, are joined another *Phalanx*; all those who profit by the War. Who are they? I answer, LEGION!

Partly perceiving the inclinations of their superiors, but strongly attached to their own interests, they join in the cry, and picking up the idle partial tales of the *Refugees*, retail them to the public as oracles, and give full sanction to the profitable opinions of their superiors.

Must we except the *Scotch* from assisting in this pleasing reverie? I wish not to perpetuate distinctions, nor to hold up to the public the part they have taken in forwarding this horrid business.

If they could regard an *Englishman* with the same partiality as they do their own countrymen in equal situations, they should have my applause: they always have my disinterested regard; many of them are worthy of it.

What

What can withstand the suggestions of all these? The *Refugees*, the *Contractors*, the *Military* when united, in saying things which it is wished might be believed? Take these matters into consideration, my countrymen, and then reflect on your condition!

From my thorough knowledge of AMERICA, I scruple not to say, and I most firmly believe it from this knowledge, that if *France* and *Spain* were leagued with you *against* AMERICA, you never would be able to subdue it. You might drive them into the interior parts of the country, the determined part of them; possess yourselves of their Towns and Sea-ports; but a nation would exist in spite of all your united efforts, and make it a moot-point, when you had effected this, whether the possession of these places would be worth the expence of maintaining them: in my opinion they would not; and I think, I can give reasons not easy to be refuted.

Should this opinion be tolerably well founded, What success are we likely to expect when *France* and *Spain* take part with AMERICA against us? He must be an idiot of a very singular cast, who is not able to see the consequences. *Washington* alone with his forces, such as they are, has prevented us from obtaining a single province. *The Massachusetts, Pennsylvania, Maryland, and Virginia*, (unless some frivolous, irritating, unavailing expedition up the *Chesapeake*, should make this province an exception) enjoy all the sweets of peace, except maintaining troops at a distance for their defence. To lessen these difficulties, the principal part of the pay of the *British* troops finds its way for necessities into these provinces.

When the confederates of AMERICA act in conjunction with their new friends, vigorously, as there is every reason to suppose they will, because it is their obvious and most important interest to render *Great-Britain* and AMERICA separate Empires, then will *France* have her day of triumph over us. All *Europe* saw, that the two Empires united, were growing too mighty.

To think that *France* means to keep possession of any part of AMERICA, claimed by the Congress, argues a childish ignorance: They mean only to divide you. It would be as expensive, and as little advantageous to the *French*, or *Spaniards*, to keep possession of any of the Congress territories, as

* *Dean Tucker* somewhere saith, that there are seven sorts of people who clamour for war, and sound the alarm for battle. 1. The Mock Patriot, whose breast beats high with the love of his country. 2. The hungry Pamphleteer, the Jackall of the Patriot lion. 3. That Monster of Modern Times, the Broker and Gambler at 'Change-Alley. 4. News-writers, Political Fire-brands—this country is now as much news-ridden, as it was priest-ridden in the days of our forefathers. 5. Contractors, Commissaries, Paymasters, &c. &c. who croak for war, to fatten on human blood. 6. Dealers in exports and imports, and Colony traders, languish for war. 7. Land and Sea-officers are the invariable advocates for war.

it would be to you. Bickerings, contentions, and wars, would destroy all the fruit of such possessions.

No wise *American* will submit to it: nor will they soon prefer a *Frenchman* to an *Englishman*. Their present union, is an union of sound policy; national friendship hath little share in it: by mutual good offices it may become such: and this will be effected the sooner, in proportion to your inveteracy against them.

But what is your opinion, my Countrymen, of the confederacy formed around us, commonly styled an *armed neutrality*? Of this I cannot speak with so much confidence, as I can of the affairs of *AMERICA*, because these I know; the other I can only guess at. But I will tell you my opinion: embrace it if it squares with your own. The *English* have long claimed the dominion of the sea; and not only claimed, but exercised it; and in war, to a degree of insufferable tyranny. No nation, however mortified, however affronted, durst oppose our pretensions: We obliged them to strike to us, searched, seized, and condemned their ships, by laws of our own construction. No nation durst seek redress by any other means, than by quietly submitting to our maritime code of laws.

When the powers of *Europe* saw us embroiled in the manner we are, our Colonies unsubdued by all our efforts, and joined by a powerful confederacy, they judged it a seasonable time to assert their rights, and to frame a code of maritime laws on the principles of free navigation: That the sea is a common highway for all nations bordering on it, and that no *one people* has a right to prescribe or institute a jurisdiction over another equally free, though not equally powerful with another. It would be a hard thing indeed, if every traveller of great force was allowed to compel another of less power to attend him at the next inn, to examine into the nature of his business.

Wearied with many grievous insults and indignities, and perceiving our embarrassed situation, the powers of *Europe* seem determined to frame a set of laws by which they will uniformly abide, in peace and in war: if we refuse to comply, they mean to employ this *armed neutrality* against us. Should this be the case, what must be the event? *That we must receive laws at sea in future, from those to whom we have hitherto given them.* It may be very just, but it is certainly very humiliating to a brave and high-spirited people, that hath been long in possession of such a sovereignty. If we refuse to comply with the regulations presented to us, this *armed neutrality*, in conjunction with *France* and *Spain*, will in my opinion unite in compelling us.

To our *American War*, to which we seem at best to be barely equal, is likely to be added the *armed force* of all the maritime powers in *Europe*. If we can but barely support ourselves in the former, is there the least chance for us to oppose the latter with success?

There seems however to be another matter in contemplation with these *neutral powers*.

They know how much our power hath increased by our Commerce in general, with AMERICA in particular. Tobacco is a considerable article of traffic, and of revenue in most of the *European* states: they wish to partake in this business, as well as in other articles of *American* trade: at a proper season I imagine they will send the like message to us, as *France* has done.

AMERICA, say they, has declared herself independent; *France* and *Spain* have acknowledged her independence; they enjoy the benefit of it; and the subjects of these other states petition for the same privileges; they grant these privileges, declare AMERICA independent, and tell you, if you molest them they will resist. Are you able to contend with all the world?

Say that these are conjectures:—be it so; but they are conjectures worth attending to, and which only can be rendered ineffectual, by a *peace with America*.

Without a *peace* you are undone at home, and controlled by your neighbours. I omit the catalogue of distresses which have grown, and are still increasing from the *American War*, because they are known, and felt by every sensible feeling person.

Where is the remedy? There is a short one, tho' bitter to a few; *make peace with America*, before your successes are balanced by misfortunes, and before general vengeance supersedes the friendship yet subsisting between nations of the same origin, language, religion, habits, and complexion: now is the time. But how is peace to be made? on what conditions? Grant *that* which you cannot keep; or if lost, is, by all your force, irrecoverable,—*Independence*: sooner or later this must be done; let the *Refugees* and others interested in deceiving you, proclaim the contrary never so loudly. I have conversed with many of them, as well as with others; there are many who are honest enough to acknowledge the truth—that *America is invincible*.

France will never allow the *Americans* to make peace with us, on any but the most humiliating terms, say the advocates for war. Those who assert this, know very little of either *France* or *America*. Their league is, and is only, that neither *France* nor *America* shall make peace with *Great Britain*, till AMERICA is declared *independent*. This being effected, a peace is negotiable.

Till then every attempt to a reconciliation is fruitless. It is the interest of *France*, of *Spain*, of all *Europe*, that this should take effect; that *Great Britain* and *America* should be divided: and the war will be continued till this is effected.

Shall we then plunge ourselves into greater, obvious, unavoidable embarrassments, trusting solely to the chapter of accidents, and see ourselves reduced

to such a state of weakness as to receive laws, from powers that dreaded our frowns? or shall we, laying pride and vengeance aside, like wise men, endeavour to make the best of a bad bargain, and try to extricate ourselves from lasting disgrace and poverty? These are mortifying reflections; but the event will justify them. I speak not from a spirit of prophecy, but from clear deductions from cause to effect. It may be asked, what can *France* gain by all this expence, if she seeks not for territorial possessions in *AMERICA*? Why, uncontrolled superiority in *Europe*. Where is the power, when *AMERICA* is divided from us, that can withstand her?

Whilst we had *AMERICA*, *France* knew, and all *Europe* felt, that every distant possession they had, were so many obligations for their peaceable behaviour. They saw *AMERICA* growing so populous, and so powerful, her commerce increasing, and enlarging the power of *Great-Britain*, that nothing was secure from us. By the people of *New England* only, *New Spain* would have been added to the *British Empire* in a few years of war, with the succour of a *British* fleet; and *France* knew that their *West-India Islands* were held by them, at our courtesy, should a war break out. In the last war the *New Englanders*, by such assistance, gave us the *Havannah*,—and since that time they have been increasing in numbers, and as it seems likewise in military talents. What greater acquisition can a nation obtain, than security from foreign force, and a power of retaliating injuries? All this every nation in *Europe* will obtain by our humiliation.

I own that it might seem a sufficient instigation for us to continue the war, were there a fair probability of success; of maintaining our authority over the revolted colonies, according to the maxims of our superiors. But it is madness to attempt that, which we can have no foundation to hope, either from reason or experience, is in our power to effect; and if we attempt it, and fail, we are undone.

If then, my Countrymen, we are persuaded that our calamities originate from the *American War*, and if greater are still in prospect; If it is certain, that the successes we have hitherto gained, are not of equal consequence; If the forces of our enemies increase, and our powers diminish; If we have not a friend to support us, but all *Europe* looks upon us with coolness and amazement, standing on the verge of declared hostilities; should we not join, as one man, in petitioning the throne for *peace*, before we are compelled to do it on still harsher terms?

I trust that I am not speaking the language of faction, nor that I am actuated by a spirit of party. I love and honour my sovereign, and my country. I wish we could have retained the *dependence* of *AMERICA*: But it is gone! Let us however recover her *friendship*; we shall recover our commerce with her,

and her support. Let us not lose so precious a treasure, and sacrifice the remaining power of this nation, to folly, pride, and vengeance.

It would be gross presumption to expect, that you should adopt opinions like these, from a nameless author, and unknown authority; I do not wish for it: those who can believe one side without proof, will change their opinions, on a like uncertain, unknown authority. Be therefore upon your guard; compare what is here offered, with what you have heard, what you still hear from both sides; compare that with what you see, and feel; and if *this* representation then merits your notice, act accordingly.

It has been said that the *American War* is a *popular* war!—it was at its first commencement, and why? Because the people were taught to believe two things, which as they favoured their purses, and their pride, were most readily admitted.

They were taught that every shilling we could obtain from AMERICA, was a shilling gained to them; they were taught that the *Americans* were under every kind of obligation to this country, and had ungratefully refused to pay them this shilling.——*John Bull* needed no more to prompt him to declare war, not only against AMERICA, but if necessity so required, that is, if any other nation refused to comply with *John Bull's* demands, he was ready to declare war against all and singular such repugnant nations. We all know with what facility, with what fatal facility, the people of this country may be worked up to espouse any cause that favours their arrogance, and their interest.

I imagine that the people in general are now fully convinced, that the *American War* had better never have been begun;—and that it is now so far from being a *popular* one, that in spite of that secret pride which hinders us from owning our mistakes, and in spite of that vengeance we could wish to execute on those who oppose our wishes, yet taught by dear experience, they wish to have an end put to the difficulties and losses that the *American War* produces.

They have been taught likewise to see, that they have been grossly imposed upon; that the *Americans* are men as well as themselves, capable of feeling oppression, and resisting wrongs; and that there seems no favourable issue to the present contention.

To all these misfortunes, What is the remedy? *Peace with America*. Is this become the popular cry? I believe it is: and could this be proved, I cannot imagine, that the Court, or the Senate, would pursue a measure become unpopular, unavailing to the end proposed, involving us in the greatest dangers, and entailing ruin on our posterity.

Was I to presume for a moment to look up above my humble sphere; and figure to myself a sovereign, powerful and revered, standing on a precipice, and urged to its verge by mistaken councils, and misinformation; ought I not

to be deemed a Traitor, if I withheld information of his danger, and ceased to prompt him to consider his safety, by telling him, That if he either receives wrong information, or misuses his judgement, it would be the most terrible of all earthly misfortunes to himself, his family, and his people?

Should a person strongly prejudiced in favour of the *American War*, [allow me here to lament the ignorance of a *Minister*, who not long since publicly declared, that *half* of the people in AMERICA wished to become subjects of *Great-Britain*; as a greater and more palpable mistake, cannot easily be uttered] I say, should a person so prejudiced deny the positions I have laid down, what must be done to convict him of his mistake? Produce the strongest evidence of their truth the case admits of, a single person can make but little progress in a work like this: it is a *national concern*; and the public mind cannot be better occupied than in such an enquiry.

I am told, and I have some reason to believe it, that very few of those officers, or others who have been in AMERICA, are closeted, till it is known whether the language they intend to speak, favours more of war or peace: if they represent the war as ruinous and ineffectual to the end proposed, *subjugation*, no further notice is taken of them from that moment.

But this is not all: pains are taken without doors to discredit their reports; that interest, disappointment, imprudent conduct, influence all they say, and therefore they are disbelieved. Falsehood gains the firmer footing, and a devoted people is deprived of all proper evidence.

Affociations, in many places, have been entered into; *petitions* preferred; and other legal and pacific means used, with a view of rescuing us from impending ruin; but what hath been the consequence? A general defeat.

It is urged, that we *asked* for too much, and therefore obtained nothing. Be this as it may; no good citizen will ever be discouraged from making further movements towards obtaining a temperate and constitutional reform.

To set on foot a dispassionate, general enquiry, *County by County*, into the effects which this war has had upon them severally, whether for the better or the worse; would seem to be neither an impracticable, offensive, nor an useless scheme. It would collect into one point, the *feelings* of the people; it would be no difficult matter, then, to guess at their *opinions*—And the knowledge of the public mind, thus centered, would undoubtedly produce just and cogent reasons, for continuing or discontinuing the *American War*; and it ought not to be supposed, that our superiors, when they see the sentiments of the people at large, will have any other mind, than a right one.

Would it therefore be an improper measure to prevail upon the present *Affociations*, and others to be appointed in Counties where there are none, to obtain the best account they can of the present state of affairs amongst them,
in

in respect to the value of lands; the state of manufactures, where there are any; the progress in public works for profit, or pleasure; the state of the poor's rate; and such other indubitable evidence of the present condition of this country, as it may be in their power to collect? I confess that this may be a difficult undertaking; yet, if accomplished, could not fail of carrying with it conviction to the most determined breast.

For it cannot be supposed that any man, or any set of men in power, shall from mere obstinacy and caprice, persevere in effecting the ruin of a country over which they preside.

It would make a necessary part of these enquiries, to obtain likewise, as far as possible, not partial fragments of the present state of *North America*, the state of our armies in it, the power of their opponents, the expence we are at, and the comparative of theirs. Hitherto the *Americans* have had very great difficulties in supporting public credit, and obtaining a value for their currency. I am informed that both are put upon a better footing now, than they have been. The pay we send over for the support of our troops, in a great degree finds its way into the hands of the *Americans*. They are induced at great risks to supply us with fresh provisions, and other necessary articles, and receive in return exorbitant profits. Two shillings sterling has often been paid, I am informed, at *New York* for a Cabbage. The *Americans* will be in no haste to terminate a War, which affords such gains to their country. It is supposed there are near *Three Millions sterling*, now in the Continental service.

The great depreciation of their currency is amended in one opulent province, by a subscription of a great number of persons of known property, to receive the paper currency at its full value; and if this is followed by the other states, this currency will be as valuable as our bank notes. Had not a number of Gentlemen united in the year 1745, to give these notes a sanction, we might then have felt all the depreciating consequences of unstable credit, that has hindered the *Americans* from doing any thing effectually.

Proper enquiries will bring many things of this nature to light, and enable us to determine, with precision, the chance we have of subduing them.

Two enquiries seem therefore worth attending to, in order to carry unequivocal and interesting information to our superiors: 1st. The state of things at home; 2d. The state of affairs abroad; in which may be included, notices of the states about us.

It is not impossible to obtain accounts that may be relied on, by private persons, of their views and intentions. In a word, to get just intelligence, and to convey this intelligence with proper vouchers, to those whom it concerns, seem to be the most likely means of bringing us all into one mind, which is, the absolute necessity of *making peace with America*.

There

There has lately arisen a new and very cogent reason, exceedingly weighty with every humane every christian mind, to effect, if possible, this important purpose. Hitherto the war in AMERICA has in general been carried on with a degree of temper and moderation, seldom known in civil wars, of which this is a certain, but singular species.

Both the parties, engaged in the execution of the orders of the States they served, did their duty with reluctance; they *felt* as Brethren, though they were commanded to have no such feelings.

Still however the generality hoped that a time *might* come, when they might once more shake hands as friends, if not as brethren.—Sudden provocations beget as sudden, and as violent retaliations.—Considering the length of the war, and other circumstances, these instances have been comparatively few. The troops on both sides performed their duty coolly, and with the feelings of humanity.

The late executions, first at *Charles-Town* by Lord *Cornwallis*, the retaliations by Congress, and the late one in the *American* Camp, have enraged the *Americans* on one side, the *British* army on the other; and victory, by fair and honourable means, will be no longer the object, but all the horrors of Revenge! Nothing will escape the fury of the sword on either side! right and wrong will cease to be the views of either; nothing but fiery indignation!

Can the people of *England*, famed for humanity, look calmly on such a scene? If they can, Where is their boasted humanity? Where is their pretence to a reformed Religion? Alas for my country, if such is their insensibility, Barbarism, and impiety!

That those who have led us into this unnatural and inhuman contest, should have no concern, no compunction, I do not wonder. Had they seen, or felt the calamities of war, they would assuredly have prevented them. From them we can expect no mitigation of human miseries!

It is the piety, the compassion of the public, that must interfere to prevent these dreadful calamities, and stop the further effusion of blood. For your own sakes therefore, and for theirs, use every effort to open the eyes of those who direct this dreadful storm, that they may see its consequences.

As I am persuaded, that the want of proper and just information is one great cause of our present fatal controversy with AMERICA—want of information, what AMERICA is, and is *capable* of; want of information, to what *extent* we suffer on this account—procure it for them: force the evidence of truth upon them: not by clamour and acrimonious invectives, (provocations which neither side would bear in similar situations) but with calm, dispassionate, irrefragable proof.

If you think that the *Americans* only will suffer in this revengeful conflict,
you

you are certainly mistaken; numbers of them may fall, but your sons, brothers, relations, must likewise become victims to rage and fury in some proportion!

To descend to a view of our situation in the different parts of the globe, would lead me from the point; I wish to keep always in view, the absolute necessity of *peace with America, on any terms*. We are yet an unbroken Empire in every part of the globe, but AMERICA; therefore when peace becomes the object with the contending states, the *uti possidetis* is in a narrow compass.

Hitherto we have taken nothing from *Spain*, nor they from us, I mean of territory, except in a point of *Florida*. The *French* have got from us two Islands which we can spare.

But suppose the *Spaniards* should make themselves masters of *Gibraltar*, (and if they are superior at sea, which is far from impossible, this may happen) what is to become of our influence in the *Mediterranean*?

While the states of *Barbary* see us in possession of this fortress, in spite of the utmost efforts of *Spain*, they acknowledge us superior to *Spain*, and are afraid of our power. They treat the *British* subjects with some degree of respect; and I believe, there are few, if any, now in slavery.

But was this the case before we were in possession of *Gibraltar*? By no means. I have documents before me of large sums annually employed in redeeming *Englishmen* from the horrid cruelties of *Turkish* slavery. When they saw us in possession of this fortress, and able to maintain it, they justly concluded that a nation, which could do so much, could do more; and therefore treated us with respect: with them we stand the foremost of all maritime powers. The moment we lose the possession of *Gibraltar*, that nation which obtains it, becomes the object of their fear, and the others cease in proportion to have any weight with them.

It is of the utmost consequence to *Spain*, that she should obtain this important fortress; and it is a convincing proof of her assurance, that the present war must inevitably secure her in the possession of this, and many other advantages, if she could forego the offers of peace, if such a bribe was proposed to her.

I own that I am solicitous for peace, and I hope not less so, for the honour of my Country: to the best of my knowledge, I have endeavoured to perform my part towards conveying all the just, and impartial information, that came within my reach; being firmly persuaded that a diligent and prudent enquiry into these subjects, absolutely necessary at this time, will confirm the ideas here thrown before you. That they may contribute to inspire your minds with a resolution to act the part of *Englishmen*, and *Christians*, is the warmest wish of my heart.

I am, my Countrymen,

Your faithful Friend,

An English Freeholder.

O N

ON THE

EMPLOYMENT OF CONVICTS.

Gazetteer, Sept. 30, 1776.

IT requires a very extensive acquaintance with many circumstances, to provide employment for those people who have hitherto been condemned for transportation. It will not therefore, I am persuaded, be taken amiss by those who have planned the late Act, if I suggest a few considerations on the subject; how pertinent they may be, the public will determine.

It is not merely to punish, but likewise to deter others by example from committing crimes worthy of punishment, that is the object of the Legislature. Was no other circumstance to forbid it, one would therefore wish, that the mode adopted might be as much open to the inspection of such as are likely to offend as possible. That the present method has not every advantage of this kind, is most certain: few perhaps will pay them a visit on the river, at least of those persons who ought to profit by their example. I do not mean, however, that they should be suffered to go at large, though in chains and with keepers; they should be kept as much as possible from all converse with the public, and yet be seen by them.

Amongst other employments, that of sawing stone has repeatedly been proposed to the public. Let us state some of the advantages, and by considering them, we may possibly see more of the difficulty of providing a proper situation for these people:—To employ them,

1. In a business that requires very little previous instruction.
2. Wherein one person can look after and instruct several.
3. In which the labour may be proportioned to the strength, and a suitable task enjoined.
4. In which they cannot embezzle the materials.
5. In which they do not interfere with any business to which an apprenticeship is served; as it may be presumed, the moment felons are employed in it, honest men would choose to leave it.

6. An employment which has the appearance of hard labour, yet is not oppressive.

7. Where they can be seen at work, without a possibility of much communication.

8. In which they can earn enough to maintain themselves; having something reserved, to compensate in part the wrongs they have done, and a part reserved for their maintenance in old age, or for their families.

9. In which a considerable number may be kept in a narrow compass, and easily secured at night from doing mischief, or escaping.

10. And where they may receive Christian instruction; as well as wholesome discipline and correction, if they deserve it.

It is obvious, that all these particulars ought to make a part of this new institution. I will not compare the practicability or advantage of this or that scheme; it would seem invidious.—I rejoice that any mode is thought of and adopted for the punishment of offenders, by subjecting them to labour in their own country; and I hope it will be extended to all criminals, except murderers, incendiaries, and robbers who commit actions of cruelty, whether in houses or on the road; and there let retaliation take place, as well as confinement to labour for life.

Sawing stone, either marble, Portland, or any other kind of stone, that is usually cut in this manner for the purpose of building, is an employment that has these advantages:

1. It is performed by the masons labourers in general, who are soon taught to perform it. No one, I believe, ever serves an apprenticeship to it. And was the price of this labour reduced, more houses would be built with stone, stairs especially, by which fires and many other accidents would often be prevented.

2. In this employment, a very few persons could superintend many; for if they were disposed to be refractory, it would be easy to confine each person to his place, yet without hindering his work, or in any respect disabling him.

3. To proportion each person's labour to his strength, would in this employment be an easy matter. A large block of stone, and a long saw, requires more strength than a lesser one; and as it would soon be known how much a person could saw in a certain given time, to set a task, rather with a reward annexed, than a punishment, would by no means be difficult; and by this means save the trouble of much chastisement.

4. One should for ever guard against the malignant and mischievous. Were they employed in any thing in which they could clandestinely do mischief, they would do it. In this occupation they can do none, but it immediately becomes its own punishment. The line is marked upon the stone, and by inclining the saw, they could injure the block and the slab; but by this inclination

tion the work would become so much the more laborious, that they would soon give up mischief that would be to their own punishment.

5. It has been said, that nobody serves an apprenticeship to this business, therefore no honest man is cashiered from his employment. It would seem, that there are about 300 persons, perhaps more, who occasionally do this business, when their masters, the masons, have no other employment for them, in and about the city of London. They earn from ten or twelve to thirty shillings a week, in proportion to their diligence and dexterity; the only expence is the price of the saws; it would not therefore be difficult, by keeping them diligently to *work*, to oblige them to maintain themselves, to share a part of the produce of their labours, to make restitution, at least some little compensation; and to prevent their families, if they have any, from being burthenome to their parishes; and a reserve may be kept for their sustenance in old age.

6. However hard the labour may seem, it need not be made oppressive; it has the appearance of hardship, but it is not so in reality, if those who have the care of them do their duty with any degree of humanity. These ought to be paid by the public, or from the general earnings of the confined, but ought to have no immediate benefit from their labour. Care, as much as possible, should be taken, that the intention of the law should be put in practice.

7. It has been observed, that they may earn sufficient to maintain themselves, and make some restitution.

8. Let a piece of ground be allotted for this purpose on the river side, in three different parts of London and Westminster; one near Old Palace or Scotland Yard, one near the Savoy, and one near the Tower.

These three places are proposed for two reasons: first, That it will be necessary to have them on the water-side, for the more easy conveyance of the blocks of stone; and, 2dly, to be near places where guards are always at hand to quell any uproar, or sudden attempt to escape, that might be attempted to be put in execution; and for this purpose a certain signal might be agreed upon between the governor and the commanding officers, should their assistance be immediately wanted.

To the river may be a range of buildings, for the governor and his assistants: on two sides let strong stone cells be built, capable of being made warm in winter by flues in the walls, where each person may have his separate dormitory. To the land-side let the place be open to inspection, only secured by a double range of high iron pallisadoes; in the interval between, the stone may be laid as it is fawn, either for the purchaser or the order.

Through these pallisadoes the men might be seen at work by all passengers, or others whose curiosity might lead them to see such an example; yet without the possibility of having the means conveyed to the prisoners to facilitate their

escape. And if all their cloaths were to be party-coloured, coats, waistcoats, and breeches, half black half blue, or of any other two colours, it would scarcely be possible for them to be long concealed, should they ever escape.

Let those who have distinguished themselves by their diligence and obedience, be gradually employed in carrying the stone from the sawyers to this receptacle; and other necessary employments about the place: but the particular regulations must arise from experience.

I do not observe that any provision is made for any kind of religious worship for the persons now condemned to labour on the Thames. This is a great defect. Perhaps the crimes of some may have proceeded from a total neglect of every religious duty. The spirit of Christianity breathes a different temper. A proper place might be set apart for their construction, in a place where numbers are confined on shore: in floating prisons this is less likely to happen. We cannot forget this Christian care, and be innocent of their blood if they perish for want of our endeavours.

If these suggestions are compared with the present employment on the Thames, where it is very probable these weak debilitated wretches must be set to do the work of the most athletic habits, it may possibly appear, that the plan here suggested may have its advantages; but it is not to gain credit, but to do good, to consult for the public weal, that I have offered these considerations to whom it concerns.

It may be said, there is not, cannot be, work enough in this way for all the criminals in England. At all sea-port towns they may be employed in this manner, and on many parts of the navigable canals now carrying on in different places, and to whose works the labour of these people would be a considerable advantage.

It would not be difficult to point out some other advantages; but I have trespassed perhaps too much already on the reader's patience, and the room allowed by the printer.

One thing, however, may possibly hasten an amendment, whether this or any other plan is adopted for the punishment of offenders. There may be less temptation, if public calamities should compel us to be less profligate and abandoned.

Philanthropos.

H O R T U S



BOXES for conveying PLANTS by Sea.

Fig. 1.

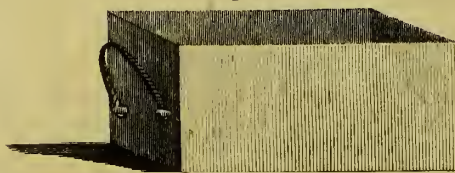


Fig. 2.

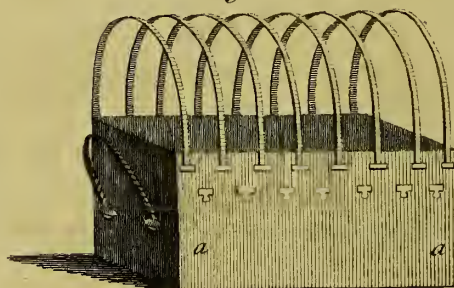
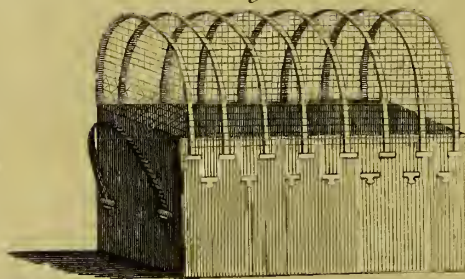


Fig. 3.



- F. 1. Form of the Box .
 2. The same with hoops and loops .
 a. a. for securing the Canvas .
 3. The same netted .

HORTUS UPTONENSIS;

OR,

A CATALOGUE

OF

STOVE AND GREEN-HOUSE PLANTS,

In Dr. FOTHERGILL'S Garden at UPTON,

At the Time of his Decease.

THOUGH I have endeavoured to render the following catalogue as complete as possible, I am aware of the possibility of many inaccuracies and defects; but at the same time I am conscious that I spared no labour to prevent them.

I have chosen an alphabetical arrangement of the plants, as constituting an Index most familiar to the generality of readers, and more convenient for those who may be fond of horticulture, and yet, from the urgency of other avocations, may not be conversant with the sexual system of Linnæus: at the same time, I have not totally neglected botanical arrangement; having introduced the class, order, genus, and English name of each species of plant. I have also, in the central column, specified the situation each requires, by the letters S and G; the former signifying the stove or hot-house, and the latter the green-house; and occasionally added such notes as the subject appeared to require. Many rare and curious plants, it is well known, are natives of the East Indies; and throughout the Indian Archipelago, as well as upon the Coast of Coromandel, the Malay language is either spoken or understood; this has induced me, where I was capable of doing it, to add the names of certain plants in this language, as a likely method of enabling the inquisitive traveller to discover more readily and certainly the object of his enquiries; and, to avoid repetition, Malay is denoted by the letter M added to such notes.

I formerly drew up, I may add with Dr. Fothergill's approbation at least, some Directions for bringing over seeds and plants from distant countries, which I think not altogether inapplicable in this place; and, to render these directions more intelligible and useful, I have annexed an engraving of boxes adapted to the purpose of conveying plants and receiving seeds in vegetation.

The gardens of the curious have already been enriched with many valuable acquisitions from distant countries; but many attempts also to introduce several other plants equally rare, have been unsuccessfully made, owing to the bad state of the seeds or plants when first procured, or the method of disposing of them during long voyages, and such accidents as the utmost precaution cannot prevent.

For the purpose of transportation, ripe seeds should be chosen, which have been collected in dry weather, and kept dry without exposing them to sunshine; and internally they should be plump, white, and moist.

(a) They may be preserved by rolling each in a coat of yellow bees-wax, about half an inch thick; and afterwards a number of these, thus prepared, may be put into a chip-box, which is to be filled with melted bees-wax, not made too hot: the outside of the box may then be washed with a solution of sublimate mercury*,

* Sublimate mercury is the most effectually dissolved in the acid of sea salt; one drop of which will dissolve one grain of mercury, which will afterwards mix with water. One drachm of sublimate will be sufficient for half a pint of water.—Corrosive sublimate may likewise be dissolved in a saturated solution of sal ammoniac in water, one ounce of which will dissolve twenty scruples of sublimate.

and kept during the passage in a cool airy place. In this manner tea seeds, the stones of mangoes, and all hard nuts and leguminous seeds in general, may be prepared.

(b) Instead of putting small seeds in bees-wax, they may be inclosed in paper or cotton which has been first steeped in melted bees-wax, and then placed in layers in a ship box, some of which may be filled as before with melted bees-wax. Pulpy seeds, as those of strawberries, mulberries, arbutuses, &c. may be squeezed together and dried, and then put into the cerate paper or cotton above-mentioned. I lately received seeds of the *Mimosa Japonica*, and *Æschynomine Movens*, from the East Indies, inclosed in linen that had been steeped in bees-wax, and these seeds appeared as fresh as when first collected.

(c) The small seeds, when dried, may be mixed with a little dry sand, put into the cerate paper or cotton, and packed in glass bottles, which are to be well corked, and covered with a bladder or leather*. These bottles may be put into a keg, box, or any other vessel, filled with four parts of common salt, two of saltpetre, and one part of sal ammoniac, in order to keep the seeds cool, and preserve their vegetative power.

The following methods, which are attended with less trouble, have been also found successful: (d) seeds and nuts, in their pods, may be inclosed in linen or writing-paper, and put into canisters, earthen jars, snuff-boxes, or glass bottles; the interstices between the parcels of seeds should be filled with whole rice, millet, panic, wheat-bran, or ground Indian corn well dried. To prevent any injury from insects, a little camphor, sulphur, or tobacco, should be put into the top of each canister or vessel, and their covers well secured, to exclude the admission of the external air.

(e) The seeds, well dried, may be put into a box, not made too close, upon alternate layers of moss, in such a manner as to admit the seeds to vegetate, or shoot their small tendrils into the moss. In the voyage the box may be hung up at the roof of the cabin; and when the ship is at the place of her destination, the seeds should be put into pots of mould, or boxes, with a little of the moss also about them, on which they had lain.

Seeds preserved after the manner (e), as well as that of (d), and likewise, for further security, some of the preceding (a), (b), (c), which have been procured in the East Indies, may be examined when the ship arrives at St. Helena; and some of them, which appear in a state of vegetation, should be sown in the annexed boxes of

* This may be compared with what Dr. Hawkesworth observes in his collection of *Voyages*, vol. ii. p. 123.

“ On the 10th I put some seeds of melons, and other plants, into a spot of ground which had been turned up for the purpose: they had all been sealed up, by the person of whom they were bought, in small bottles, with rosin, but none of them came up except mustard; even the cucumbers and melons failed, and Mr. Banks is of opinion that they were spoiled by the total exclusion of fresh air.” Some seeds which I received from North America, inclosed in corked bottles, have since been sown, and have germinated.

earth, between the growing plants, as many sorts as possible; some of which may succeed in case of failure of the plants.

More of the same seeds may be also sown after the ship has passed the Tropic of Cancer, near the latitude of thirty degrees north. And if very small bits of broken glass are mixed with the earth, or thrown plentifully over its surface in the boxes, it may prevent mice or rats from burrowing in it, and destroying the tender roots of the plants and growing seeds.

In whatever method our seeds have been preserved, it should be a constant precaution to sow them as soon as they have been exposed to the external air, otherwise they probably will never vegetate.

In order to take up plants or shrubs advantageously, that are to be transported, a mattock and a spade should be provided; with the mattock a small trench should be opened round the plant intended to be taken up; the spade should then be put under the root, which must be lifted up with a very large ball of earth surrounding it; the ball may afterward be pared carefully with a knife, and reduced as small as can be done without wounding any of the larger roots.

Of each kind the youngest plants of shrubs and trees, that can be found, should be taken; none of them should be above a foot high; as young plants are found by experience to bear removing much better than old ones.

The most convenient kind of boxes for the conveyance of plants in long voyages, are made about four feet long, two broad, and two deep; these, when half filled with earth, can be conveniently carried by two men holding the rope handles fixed to their ends. P. 1, 2, 3.

These should be filled about half full of mould, with a few rotten sticks or leaves at the bottom, and the plants intended to be sent, planted in it, as soon after the ship's arrival as possible. When the ship is about to sail, and they are sent on board, hoops are to be nailed to the sides of the box, in such a manner, that, arching over it, they may cover the highest of the plants; small ropes are to be twisted between these, in the form of a net, to prevent the dogs or cats from getting at them, and scratching them up, on account of the fresh mould.

For each box so hooped and netted, provide a canvas cover, which may, when put on, entirely protect it; and, to prevent this cover from being lost or mislaid, nail it to one side, and fix loops or hooks to the other, by which it may occasionally be fastened down.

The Captain who takes charge of them, must be particularly informed, that the chief danger plants are liable to in sea-voyages, is occasioned by the minute particles of salt water with which the air is charged, whenever the waves have white frothy curls upon them; these particles fall upon the plants, and, quickly evaporating, leave the salt behind, which, choking up the pores, prevents perspiration, and effectually kills the plant; he therefore should never let the covers be off,

except on days when the wind is not sufficiently high to beat the water up into what the seamen call white caps. He must not keep them always shut up during the voyage; for if he does, they will mould and perish by the stagnation of the air under the covers; and if at any time, by accident or necessity, they should have been exposed to the wind when the waves have white caps, he must be desired to water them well with fresh water, sprinkling all the leaves with it, to wash off the salt drops which cover them. In this manner plants may be brought from almost any distance; many come from China every year in a flourishing state.

If it is convenient to the Captain to give up a small part of the great cabin to the plants, this is certainly by far the best station for them; nor are they much in the way, as the place which suits them best is close to the stern windows: in this case they need not be furnished with their canvas covers; and they may frequently have air, by opening the windows when the weather is quite moderate.

When the naturalist is in search of vegetable productions, different soils and situations should be examined; as the sea, and its shores, deep running waters, dikes, marshes, moors, mountains, cultivated and barren fields, woods, rocks, &c. afford each their peculiar plants; and wherever any are collected, the particular soil and situation should be remarked. Sometimes it may prove inconvenient to convey the plants which may be discovered, when it would not be so to send them dried, in the form of a *hortus-siccus*. To do this in the best manner, and to make their stalks, leaves, &c. lie flat and smooth, “the plants should be gathered in a dry day, after the sun hath exhale the dew; taking particular care to collect them in that state wherein the generic and specific characters are most conspicuous; the specimens should be suffered to lie on a table until they become limber, and then they should be laid upon a pasteboard, as much as possible in their natural form, but at the same time with a particular view to their generic and specific characters: for this purpose, it will be adviseable to separate one of the flowers, and to display the generic character; and if the specific character depends upon the flower, or upon the root, a particular display of that will be likewise necessary. When the plant is thus disposed upon the pasteboard, cover it with eight or ten layers of spongy paper, and put it into the press*. Exert only a small degree of pressure for the

* “The press may be prepared by the following directions. Take two planks of a wood not liable to warp, two inches thick, eighteen inches long, and twelve inches broad. Get four male and four female screws, such as are commonly used for securing sash windows. Let the four female screws be let into the four corners of one of the planks, and corresponding holes made through the four corners of the other plank, for the male screws to pass through, so as to allow the two planks to be screwed tightly together. It will not be amiss to face the bearing of the male screws upon the wood with iron plates; and if the iron plates went across from corner to corner of the wood, it would be a good security against the warping.”

“This note I have copied from the ingenious Dr. Withering’s Botanical arrangement, and likewise the account of drying plants, as his directions are more full and complete than those I formerly introduced into my Naturalist’s Companion, An. 1772. Where the convenience of this press is not at hand, a suitable pressure may be made by weights, or any heavy body.

“ first two or three days; then examine it, unfold any unnatural plaits, rectify any mistakes, and after putting fresh paper over it, screw the press harder. In about three days more, separate the plant from the pasteboard, if it is sufficiently firm to allow of a change of place; put it upon a fresh pasteboard, and, covering it with fresh blossom-paper, let it remain in the press a few days longer. The press should stand in the sunshine, or within the influence of a fire.

“ When it is perfectly dry, the usual method is to fasten it down with paste or gum-water*, on the right-hand inner page of a sheet of large strong writing-paper. It requires some dexterity to glue the plant neatly down, so that none of the gum or paste may appear to defile the paper. When it is quite dry, write upon the left-hand inner page of the paper, the name of the plant; the specific character; the place where, and the time when, it was found; and any other remarks that may be thought proper. Upon the back of the same page, near the fold of the paper, write the name of the plant, and it will then be complete for the cabinet.”

“ Some people put the dried plants into sheets of writing paper, without fastening them down at all; and others only fasten them by means of small slips of paper, pasted across the stem or branches.

“ Another more expeditious method is, to take the plants out of the press, after the first or second day; let them remain upon the pasteboard; cover them with five or six leaves of blotting-paper, and iron them with a hot smoothing iron, until they are perfectly dry: if the iron is too hot it will change the colours; but some people, taught by long practice, will succeed very happily. This is quite the best method to treat the Orchis, and other slimy mucilaginous plants.

“ Another method is, to take the plants when fresh gathered, and, instead of putting them into the press, immediately to fasten them down to the paper, with strong gum-water; then dip a camel-hair pencil into spirit varnish†, and varnish the whole surface of the plant two or three times over. This method succeeds very well with plants that are readily laid flat; and it preserves their colours better than any other.”

The impressions of plants well taken off upon paper, look very little inferior to the best drawings, and may be done with very little trouble. For this purpose, some printer's ink‡, and a pair of printer's bosses, such as are used for laying the ink on

* “ A small quantity of finely-powdered arsenic or corrosive sublimate is usually mixed with the paste or gum-water, to prevent the devastations of insects; but the seeds of staves-acre, finely powdered, will answer the same purpose, without being liable to corrode, or to change the colour of the more delicate plants.”

† The spirit varnish may be made of a quart of highly-rectified spirit of wine; five ounces of gum sandarach; two ounces of mastich in drops; one ounce of pale gum elemi, and one ounce of oil of spike lavender: these are to stand in a warm place, and be shook frequently, to expedite the solution of the gum.

‡ Where this cannot be procured, ivory, or lamp-black, ground with boiled linseed-oil, may be substituted:

types, are necessary. After rubbing these bosses with a little of the ink, lay the plant betwixt them, and press it so as to give it sufficient colour; then take the plant and lay it carefully on a sheet of paper, and press it with the hand, to give the impression of the plant to the paper, which may be afterwards coloured according to nature; a piece of blotting-paper may be placed betwixt the plant and the hand, to prevent the latter from being dirtied by the ink.

But the most effectual method of sending a branch of any plant, with the flowers and parts of fructification entire and perfect, is to put them in bottles of brandy, rum, or arrack.

Corals, corallines, sponges, &c. inhabitants of the sea, are found in considerable variety near the coasts of islands and continents, particularly in hot climates. Some of these are very tender and brittle when dry, and should therefore be carefully packed up in sand, in order to keep them steady, or placed betwixt papers in the manner of an *hortus siccus*.

In hot climates, the insects are very rapacious; and I have seen the finest fan-corals, and others of a soft texture when first taken out of the sea, almost devoured by ants, before they became dry and hard. To prevent injuries of this kind, a little powdered corrosive sublimate, arsenic, or staves-acre, may be sprinkled upon these productions. Some of the small, and branches of the large ones, might also be put into spirits, and the parts of them thereby preserved much more distinct; which would serve greatly to illustrate their natural history.

JOHN COAKLEY LETTSOM.

HORTUS

HORTUS UPTONENSIS;

OR,

A CATALOGUE

OF

STOVE AND GREEN-HOUSE PLANTS,

In Dr. FOTHERGILL's Garden at UPTON, at the Time of his Decease.

GENUS.	SPECIES, CLASS, AND ORDER.	ENGLISH NAMES.
ABRUS.	<i>Diadelph. Decand.</i> <i>precatoria.</i>	S. <i>Jamaica wild</i> Liquorice.
ACER.	<i>Polygamia Monœcia.</i> <i>canadense.</i>	Gen. 1155. Sp. 1495. G. <i>Canada</i>
	<i>indicum.</i>	S. <i>Indian</i> } Maple.
	<i>monspessulanum.</i>	G. <i>Montpelier</i>
ACHILLEA.	<i>Syngenesia Polyg. superf.</i>	Gen. 971. Sp. 1264.
	<i>Clavennæ.</i>	G. <i>Silver-leaved</i> } Milfoil.
	<i>ægyptiaca.</i>	G. <i>Egyptian</i>
ACHRAS.	<i>Hexandria Monogynia.</i> <i>mammofa.</i>	Gen. 438. Sp. 469. S. <i>American</i> Marmelade.
	<i>Sapota.</i>	S. <i>American</i> Mammee.
ACHYRANTHES. ^a	<i>Pentand. Monog.</i> <i>aspera.</i>	Gen. 288. Sp. 294. S. <i>Rough</i> } Achyranthes.
	<i>lappacea.</i>	S. <i>Burly</i>
ADANSONIA.	<i>digitata.</i>	S. <i>Æthiopian</i> Sour-gourd.
ADELIA.	<i>Diœcia Monadelphæa.</i> <i>Acidoton.</i>	Gen. 1137. Sp. 1473. G. <i>Prickly</i> Adelia.
ADIANTHUM. ^b	<i>Cryptog. Filices.</i> <i>Capillis veneris.</i>	Gen. 1180. Sp. 1556. G. <i>True</i> Maiden-hair.
ÆSCHYNOMENE.	<i>Diadelph. Decand.</i> <i>grandiflora.</i>	Gen. 888. Sp. 1556. S. <i>Great flowering</i> } Æschynomene,
	<i>movens.</i>	S. <i>Walking</i> } or Sensitive Plant.

^a Cendor, M.^b Sajer-lacupa, M.

GENUS.	SPECIES, &c.	ENGLISH NAMES.
ADONIS.	<i>Polyand. Polygyn.</i> <i>rigida.</i>	Gen. 698. Sp. 771. G. Rigid Adonis.
AGAVE.	<i>Hexandria Monogyn.</i> <i>americana.</i> <i>var. fol. varieg.</i> <i>vivipara.</i> <i>virginica.</i> <i>foetida.</i> <i>Karatta.</i> <i>Vera Cruz.</i> <i>carolinensis.</i>	Gen. 431. Sp. 461. G. Large American G. Striped-leaved G. Silk-grass, or Childing G. Virginia G. Fetid G. Aloe with deep green leaves G. Broad-leaved Vera Cruz G. Carolina } Aloe.
ALBUCA.	<i>Hexandr. Monog.</i> <i>major.</i> <i>minor.</i> <i>canaliculata.</i> <i>erecta.</i> <i>pubescens.</i>	Gen. 416. Sp. 438. S. Great Bastard S. Lesser S. Channell'd S. Straight S. Downy } Star of Bethlehem.
ALCEA.	<i>Monadelph. Polyand.</i> <i>sinensis.</i>	Gen. 840. Sp. 966. S. Chinese Hollyhock.
ALETRIS.	<i>capensis.</i> <i>fragrans.</i> <i>Uvaria.</i> <i>Hyacinthoides.</i>	S. Cape S. Sweet G. Iris Uvaria S. Hyacinth-flowered } Aletris, vulgarly Aloe.
ALLIUM.	<i>Hexand. Monog.</i> <i>inodorum.</i> <i>subhirsutum.</i>	Gen. 409. Sp. 423. 1680. G. Inodorous G. Hairy } Garlick.
ALOE.	<i>Hexand. Monog.</i> <i>viscosa.</i> <i>arachnoidea.</i> <i>ferox.</i> <i>balearica.</i> <i>glauc.</i> <i>maculata.</i> <i>mitriformis.</i> <i>fuccotrina.</i> ^a <i>perfoliata.</i> <i>humilis.</i> <i>variegata latifolia.</i> <i>angustifol.</i> <i>disticha.</i> <i>linguiformis.</i> <i>verrucosa.</i>	Gen. 304. Sp. 457. S. Viscous triangular S. Cobweb S. Greater prickly S. Minorca—new species G. Dwarf glaucous G. Spotted-leaved G. Mitre-shaped G. True Succotrine G. Sword-shaped G. Dwarf hedge-hog G. Broad-leaved partridge-breast G. Narrow-leaved variegated G. Soap G. Tongue G. Pearl-tongue } Aloe.

^a The best is produced in the Island of Zocotra, in the Straits of Babel. It is conjectured that we have not the right species in the West Indies. The

country name is *Ceban*. In the Malay dialect, Aloes is called *Lida-Coaja*, id. est, *Lingua Crocodili*.

GENUS.	SPECIES, &c.	ENGLISH NAMES.
ALOE.	plicata.	G. Fan
	carinata.	G. Triangular Keel-shaped
	spiralis.	G. Spiral
	retusa.	G. Cushion
	pumila.	G. Dwarf
	herbacea.	G. Shrubby
	margaritifera.	G. Large Pearl
	var. minor.	G. Lesser Pearl
ALSTROEMERIA.	Hexand. Monog.	Gen. 432. Sp. 461.
	pelegrina.	S. Purple-spotted flowering
	ligta.	S. Striped
AMARYLLIS.	Hexand. Monog.	Gen. 400. Sp. 420. 1680.
	Atamasco.	S. Atamasco
	formosissima.	S. Jacobean
	regina.	S. Mexican
	crispa.	S. Curled
	aurea.	S. Golden
	radiata.	S. Radiated
	falcata.	S. Hooked
	angustifolia.	S. Narrow-leaved
	obliqua.	S. Oblique
	lutea.	S. Yellow
	Belladonna.	S. Belladonna
	farniensis.	S. Guernsey
	longifolia.	S. Dwarf long-leaved
AMBROSIA.	guttata.	S. Spotted African
	orientalis.	S. Brunswegian
	undulata.	S. Purple Cape
		Gen. 1054. Sp. 1401.
	mexicana.	G. Mexican
AMELLUS.	Syngenesia Polyg. superfl.	Gen. 978. Sp. 1276.
	Lychnitis.	G. Ever-flowering Cape
AMOMUM.	Monandria Monogynia.	Gen. 2. Sp. 1.
	Zingiber.	S. True
	Zerumbet.	S. Bastard
ANAGYRIS. ^a	Decand. Monogyn.	Gen. 509. Sp. 534.
	foetida.	G. Stinking
ANDROMEDA.	Decand. Monogyn.	Gen. 549. Sp. 563.
	acuminata.	G. Pointed
	axillaris.	G. Axillary
	Daboecii.	G. Irish
	occidentalis. N.S.	G. Western
ANDROSACE.	Pentandria Monogynia.	Gen. 196. Sp. 203. 1668.
	villosa.	G. Villous

Aloe.

Alstroemeria.

Lily Daffodil.

Ambrosia.

After.

Ginger.

Bean-trefoil.

Andromeda.

Androsace.

^a Pitt, M.

GENUS.	SPECIES, &c.	ENGLISH NAMES.
ANDRYALA.	<i>Syngen. Polyg. Æqualis.</i> Gen. 915. Sp. 1136.	
	lanceolata. G. Spear-leaved	} Andryala.
	revoluta. G. Revolute	
	ragulina. G. Mouse-ear	
	sinuata. G. Sinuated	
ANEMONE.	<i>Polyand. Polygyn.</i> Gen. 694. Sp. 758.	
	<i>Thalictroides.</i> S. Meadow-Rue leaved	Anemone.
ANNONA.	<i>Polyand. Polygyn.</i> Gen. 693. Sp. 756.	
	asiatica. S. Asiatic	} Custard Apple.
	muricata. S. Sour	
	squamosa. S. Sweet	
ANTHERICUM.	<i>Hexand. Monogyn.</i> Gen. 422. Sp. 444. 1679. 1680.	
	frutescens. G. Shrubby	} Spiderwort.
	<i>Asphodeloides.</i> G. Asphodel-leaved	
	aloooides. G. Aloe-leaved	
	elatum. G. Tall	
	fistulosum. G. Fistulous	
ANTHOLYZA.	<i>Triand. Monogyn.</i> Gen. 58. Sp. 54.	
	Meriana. S. Greater	} Watfonia, or Antholyza.
	Merianella. S. Lesser	
	Cunonia. S. Persian	
	ringens. S. Scarlet, or grinning	
ANTHYLLIS.	<i>Diadelph. Decand.</i> Gen. 864. Sp. 1011.	
	Barba Jovis. G. Silver Bush	} Kidney Vetch.
	Cytissoides. G. Spanish	
ANTIRRHINUM.	<i>Didynam. Angiosperm.</i> Gen. 750. Sp. 851.	
	triste. G. Dwarf black	} Snap-dragon.
	molle. G. Soft-leaved	
	majus variegatum. G. Striped-leaved	
APOCYNUM.	<i>Pentand. Digyn.</i> Gen. 305. Sp. 311.	
	frutescens. S. Shrubby	} Dogs-bane.
	cannabinum. S. Canadian	
ARALIA.	<i>Pentand. Pentag.</i> Gen. 386. Sp. 392.	
	spinosa. G. Spinous	Aralia.
ARBUTUS.	<i>Decand. Monogyn.</i> Gen. 552. Sp. 566.	
	Uva-ursi. G. Bear-berry	} Strawberry Tree.
	Andrachne. G. Oriental	
ARCTOTIS.	<i>Syngen. Polyg. necessaria.</i> Gen. 991. Sp. 1305.	
	multiflora. G. Many-flowered	} Arctotis.
	plantaginea. G. Plantain-leaved	
	Abrotanifolia. G. Southernwood-leaved	
	paleacea. G. Chaffy	
	diffusa. G. Spreading	
ARDUINA.	bispinosa. G. Cape	Buckthorn.

GENUS. SPECIES, &c. ENGLISH NAMES.

ARECA. ^a	<i>Monacia Enneand.</i>	Gen. 1225. Sp. 1959.	
	oleracea.	S. Eatable Indian	Nut.
ARISTOLOCHIA. ^b	<i>Gynand. Hexand.</i>	Gen. 1022. Sp. 1361.	
	indica.	S. Indian	} Birthwort.
	lobata.	S. Lobed	
	rotunda.	S. Round-rooted	
	<i>Pistolochia.</i>	G. <i>Pistolochia</i>	
	<i>fempervirens.</i>	G. <i>Ever-green</i>	
	<i>Serpentaria.</i>	G. <i>Virginian.</i>	
ARTEMESIA. ^c	<i>Syngen. Polyg. Æqualis.</i>	Gen. 945. Sp. 1184.	
	arborescens.	G. Tree	} Mugwort.
	crithmifolia.	G. <i>Samphire-leaved</i>	
ARUM. ^d	<i>Gynand. Polyand.</i>	Gen. 1028. Sp. 1367.	
	<i>Colocasia.</i>	S. <i>Greater</i>	} Wake Robin.
	<i>feguinum.</i>	S. <i>Dumb Cane</i>	
	<i>esculentum.</i>	S. <i>Eatable</i>	
	<i>auriculatum.</i>	S. <i>Eared</i>	
	<i> pictum.</i>	S. <i>Painted</i>	
	<i>crinitum.</i>	S. <i>Hairy</i>	
	<i>pedatum.</i>	S. <i>Foot-shaped</i>	
ARUNDO. ^e	<i>Triandr. Digyn.</i>	Gen. 93. Sp. 120. 1677.	
	Bambos.	S. <i>Bamboo</i>	Cane.
ASCLEPIAS. ^f	<i>Pentand. Digyn.</i>	Gen. 306. Sp. 312.	
	fruticosa.	G. <i>Shrubby</i>	} Swallow Wort.
	gigantea.	S. <i>Auricula-tree</i>	
	parviflora.	S. <i>Small-flowered</i>	
	curassavica.	S. <i>Orange-flowered</i>	
	<i>Teneriffensis.</i>	S. <i>Teneriffe</i>	
	tuberosa.	S. <i>Tuberoſe</i>	
ASPALATHUS.	<i>Diadelph. Decand.</i>	Gen. 860. Sp. 1000.	
	cretica.	G. <i>Cretan African</i>	Broom.
ASPARAGUS.	<i>Hexand. Monogyn.</i>	Gen. 424. Sp. 448.	
	retrofractus.	G. <i>Larch-leaved</i>	} Sparrow Grass.
	albus.	G. <i>White</i>	
	acutifolius.	G. <i>Sharp-leaved</i>	
	declinatus.	G. <i>Bristly-leaved</i>	
ASPHODELUS.	<i>Hexand. Monogyn.</i>	Gen. 421. Sp. 443.	
	fistulosus.	G. <i>Leſſer</i>	King's Spear.
ASTER.	<i>Syngen. Polyg. ſuperf.</i>	Gen. 954. Sp. 1224.	
	fruticulofus.	G. <i>Shrubby</i>	Starwort.
ASTRAGALUS.	<i>Diadelph. Decand.</i>	Gen. 892. Sp. 1064.	
	monspeſſulanus.	G. <i>Montpelier</i>	Milk Vetch.

^a Pinang, M.

^b Tali-goreta, M.

^c Baro-Tjina, M.

^d Caladi-aijer, M.

^e The French have introduced this useful plant

into Grenada; and it now thrives in some of the other West India islands; It flourishes likewise in South Carolina.

^f Pinger-outau, M.

GENUS.	SPECIES, &c.	ENGLISH NAMES.
ATHANASIA.	<i>Syngen. Polygam. Æqualis.</i> Gen. 943. Sp. 1180.	
	<i>crithmifolia.</i> G. <i>Samphire-leaved</i>	} Goldy-locks.
	<i>incana.</i> G. <i>Hoary</i>	
ATRAPHAXIS.	<i>Hexand. Digyn.</i> Gen. 449. Sp. 495.	
	<i>Undulata.</i> G. <i>Curled alternate-leaved</i> Atraphaxis.	
ATROPA.	<i>Pentand. Monog.</i> Gen. 249. Sp. 259.	
	<i>frutescens.</i> G. <i>Shrubby</i> Atropa.	
BACCHARIS. ^a	<i>Syngen. Polygam. superfl.</i> Gen. 949. Sp. 1204.	
	<i>ivæfolia.</i> G. <i>Ploughman's</i>	} Spikenard.
	<i>putrida.</i> G. <i>Fetid</i>	
	<i>neriifolia.</i> G. <i>Oleander-leaved</i>	
BALTIMORA.	<i>erecta.</i> G. <i>Upright</i> Baltimore.	
BANISTERIA. ^b	<i>Decand. Trigyn.</i> Gen. 573. Sp. 611.	
	<i>laurifolia.</i> S. <i>Laurel-leaved, or Jamaican Banisteria.</i>	
BARLERIA.	<i>Didynam. Angiosp.</i> Gen. 785. Sp. 887.	
	<i>Prionitis.</i> S. <i>Prickly</i>	} Barleria.
	<i>buxifolia.</i> S. <i>Box-leaved</i>	
BASELLA.	<i>Pentand. Tetragyn.</i> Gen. 382. Sp. 390.	
	<i>rubra.</i> S. <i>Red Malabar</i> Nightshade.	
BAUHINIA. ^c	<i>Decand. Monogyn.</i> Gen. 511. Sp. 535.	
	<i>acuminata.</i> S. <i>Pointed-leaved</i>	} Mountain Ebony.
	<i>divaricata.</i> S. <i>Honeysuckle</i>	
	<i>spicata.</i> S. <i>Spiked</i>	
	<i>tomentosa.</i> S. <i>Woolly</i>	
BEGONIA. ^d	<i>Polygam. Monocia.</i> Gen. 1156. Sp. 1497.	
	<i>obliqua.</i> S. <i>Oblique</i> Begonia.	
BETULA.	<i>Monocia Tetrand.</i> Gen. 1052. Sp. 1393.	
	<i>nana.</i> S. <i>Dwarf</i> Birch.	
BIGNONIA. ^e	<i>Didynam. Angiosp.</i> Gen. 759. Sp. 868.	
	<i>Leucoxylon.</i> S. <i>Jamaica Tulip-tree</i>	} Trumpet Flower.
	<i>flans.</i> S. <i>Jasmine</i>	
	<i>indica.</i> S. <i>Indian</i>	
BIXA. ^f	<i>Polyand. Monogyn.</i> Gen. 654. Sp. 730.	
	<i>Orellana.</i> S. <i>American</i> Ornatto.	
BLECHNUM.	<i>Cryptogam. Filices.</i> Gen. 1175. Sp. 1534.	
	<i>orientale.</i> S. <i>Oriental</i> Blechnum.	
BOCCONIA.	<i>Dodecand. Monogyn.</i> Gen. 591. Sp. 634.	
	<i>frutescens.</i> S. <i>Tree</i> Celandine.	
BOERHAAVIA.	<i>Monand. Monogyn.</i> Gen. 9. Sp. 4. 1676.	
	<i>scandens.</i> S. <i>American, or climbing</i> Hogweed.	

^a *Bolontas, M.*^b *Loo-utau, M.*^c *Daun Lida, M.*^d *Daun-affam, M.*^e *Cajo-Conda, M.*^f *Cesombo-king, M. in Sumatra Cassombo.*

GENUS.	SPECIES. &c.	ENGLISH NAMES.
BOMBAX. ^a	<i>Monadelph. Polyand.</i>	Gen. 835. Sp. 959.
	Ceiba. S.	Five-leaved
	gossypinum. S.	Hairy
		} Silk Cotton-tree.
BONTIA.	<i>Didynam. Angiosperm.</i>	Gen. 791. Sp. 890.
	daphnoides. S.	Barbadoes
		Wild Olive.
BOSEA.	<i>Pentand. Digyn.</i>	Gen. 315. Sp. 326.
	Yervamora. G.	Golden Rod.
BROMELIA. ^b	<i>Hexand. Monogyn.</i>	Gen. 395. Sp. 408.
	Ananas. S.	Queen
	Variegat. Fol. Arg. S.	Surinam
	Karatas. S.	Wild Jamaica
		} Pine Apple.
BRUNIA.	<i>Pentand. Monogyn.</i>	Gen. 274. Sp. 288.
	muscosa. S.	Mossy
		Brunia.
BRUNSFELSIA.	<i>Pentand. Monogyn.</i>	Gen. 260. Sp. 276.
	americana. S.	American
		Brunsfelsia.
BUBON.	<i>Pentand. Digyn.</i>	Gen. 350. Sp. 364.
	macedonicum. G.	Macedonian
	Galbanum. G.	Galbaniferous
	gummiferum. G.	Myrrh-leaved
		} Parsley.
BUDDLEJA.	<i>Tetrand. Monogyn.</i>	Gen. 140. Sp. 162.
	globosa. S.	Globular
		Buddleja.
BUPHTALMUM.	<i>Syngen. Polygam. superfl.</i>	Gen. 977. Sp. 1273.
	frutescens. G.	Shrubby
	spinofum. G.	Spinous
		} Ox-eye.
BUPLEURUM.	<i>Pentand. Digyn.</i>	Gen. 328. Sp. 340. 1678.
	frutescens. G.	Shrubby
		Hare's-car.
BUXUS.	<i>Monœcia Tetrandria.</i>	Gen. 1053. Sp. 1394.
	Balearica. G.	Minorca
	sempervirens. G.	Ever-green
		} Box.
CACALIA. ^c	<i>Syngen. Polygam. Æqualis.</i>	Gen. 933. Sp. 1168.
	Ficoides. G.	Bastard Ficoides
	sonchifolia. G.	Sow-thistle-leaved
	repens. G.	Creeping
	Anteuphorbium. S.	Spurge-bane
	atriplicifolia. G.	Orach-leaved
	papillaris. S.	Pimply
		} Foreign Colt's-foot.
CACTUS.	<i>Icosand. Monogyn.</i>	Gen. 613. Sp. 666.
	moniliformis. G.	Jointed India
	mamillaris. S.	Lesser Melon
	Melocactus. S.	Greater Melon
	tetragonus. S.	Four-sided Torch
	hexagonus. S.	Six-sided Torch
	pentagonus. S.	Five-sided Torch
	repandus. S.	Obtuse-angled
	peruvianus. S.	Peruvian
		} Torch Thistle.

^a Capok, M.^b Nanas, M.^c Catta Camædi, M.

GENUS.	SPECIES, &c.	ENGLISH NAMES.
CACTUS.	Royeni.	S. <i>Nine-angled</i>
	grandiflorus.	S. <i>Greater flowering</i>
	flagelliformis.	S. <i>Creeping Cereus</i>
	triangularis.	S. <i>Prickly Pear, or triangular Torch</i>
	Opuntia.	S. <i>Oval-leaved Indian Fig</i>
	Ficus Indicus.	S. <i>Indian Fig</i>
	Tuna.	S. <i>Greater Indian Fig</i>
	cochenillifer.	S. <i>Cochineal Fig</i>
	curassavicus.	S. <i>Least Indian</i>
	Phyllanthus.	S. <i>Spleenwort-leaved</i>
	spinossissimus.	S. <i>Clystered spiny</i>
CÆSALPINIA.	Decand. Monogyn.	Gen. 516. Sp. 544.
	Sappan.	<i>Sappan-wood</i>
	vesicaria.	<i>Bladder</i>
CALCEOLARIA.	Syngen. Monogam.	Gen. 1007. Sp. nova.
	Fothergilli.	G.
CALENDULA.	Syngen. Polyg. necessaria.	Gen. 990. Sp. 1303.
	graminifolia.	G. <i>Grass-leaved</i>
	fruticosa.	G. <i>Shrubby</i>
CALLA.	Gynand. Polyandria.	Gen. 1030. Sp. 1373.
	æthiopica.	G. <i>Æthiopian</i>
CALLICARPA.	Tetrand. Monogyn.	Gen. 135. Sp. 161.
	americana.	G. <i>Carolina</i>
	tomentosa.	G. <i>Downy</i>
CALLISIA.	Triand. Monogyn.	Gen. 63. Sp. 62.
	repens.	G. <i>Creeping</i>
CAMELLIA.	Monodelph. Polyand.	Gen. 843. Sp. 982.
	japonica.	S. <i>Tsubakki, or Japan</i>
CAMPANULA.	Pentand. Monog.	Gen. 218. Sp. 231. 1669. 1678.
	aurea.	<i>Golden</i>
	rotundifolia.	G. <i>Round-leaved</i>
	americana.	G. <i>American</i>
CANARINA.	Hexand. Monog.	G. <i>Canary</i>
	Campanula.	
CANELLA.	Dodecand. Monogyn.	Gen. 598. Sp. nova.
	Cinnamomæa.	S.
CANNA. ^a	Monand. Monogyn.	Gen. 1. Sp. 1675.
	Indica.	S. <i>Common red</i>
	variegata.	S. <i>Striped-leaved</i>
	lutea.	S. <i>Yellow-flowered</i>
	glauca.	S. <i>Sea-green</i>
CAPPARIS.	Polyand. Monog.	Gen. 643. Sp. 720. 1674.
	spinosa.	S. <i>Prickly</i>
	arborea.	S. <i>Shrubby</i>

} Torch
Thistle.} Indian
Fig.

} Cæsalpinia.

} Marygold.

Arum.

} Callicarpa.

Callisia.

Rose.

} Bell-flower.

Campanula.

} Indian Shot,
or Cannacorus.

} Caper-tree.

^a Daun Tassibeb, M.

GENUS.	SPECIES, &c.	ENGLISH NAMES.
CAPSICUM. ^a	<i>Pentand. Monog.</i> <i>frutescens.</i>	Gen. 252. Sp. 370. S. <i>Barberry, or shrubby</i> Guinea Pepper.
CARICA. ^b	<i>Diœcia Decand.</i> <i>Papaya.</i>	Gen. 1127. Sp. 1466. S. <i>Melon-shaped</i> Papaw.
CASSIA. ^c	<i>Diœcia Tetrand.</i> <i>Fistula.</i> <i>biflora.</i> <i>Sena.</i> <i>ligustrina.</i> <i>planifiliqua.</i> <i>tenuissima.</i> <i>auriculata.</i> <i>Madraffenfis.</i> <i>bicapsularis.</i> <i>hastata.</i>	Gen. 1101. Sp. 537. S. <i>Medicinal</i> S. <i>Two-flowered</i> S. <i>True Sena.</i> S. <i>Privet-leaved</i> S. <i>Flat-podded</i> S. <i>Slender-podded</i> S. <i>Eared.</i> S. <i>Madras</i> S. <i>Two-capsuled</i> S. <i>Spear-shaped</i>
CASSINE.	<i>Pentand. Trigyn.</i> <i>Paragua.</i> <i>Maurocenia.</i> <i>capensis.</i>	Gen. 371. Sp. 384. G. <i>Yapon, or Paraguay</i> G. <i>Greater</i> G. <i>Phyllirea, or Cape.</i>
CASSUARINA. ^d	<i>equisetifolia.</i> <i>tuberosa.</i>	S. <i>Tinian</i> S. <i>Tuberous Tinian</i>
CASSYTA.	<i>Enneand. Monogyn.</i> <i>filiformis.</i>	Gen. 505. Sp. 530. S. <i>Barbarian</i>
CATESBÆA.	<i>Tetrand. Monogyn.</i> <i>spinosa.</i>	Gen. 130. Sp. 159. S. <i>Lily</i>
CATENANCHE.	<i>Syngen. Polygam. Æqualis.</i> <i>cærulea.</i>	Gen. 920. Sp. 1142. G. <i>Blue Candia</i>
CEANOTHUS. ^e	<i>Pentand. Monogyn.</i> <i>africanus.</i> <i>asiaticus.</i>	Gen. 267. Sp. 284. G. <i>African</i> G. <i>Asiatic.</i>
CEDRELA.	<i>Pentand. Monogyn.</i> <i>odorata.</i>	Gen. 277. Sp. 289. S. <i>Barbadoes</i>
GELASTRUS.	<i>Pentand. Monogyn.</i> <i>buxifolius.</i> <i>spinofus.</i> <i>pyracanthus.</i> <i>bullatus.</i>	Gen. 270. Sp. 285. G. <i>Box-leaved</i> G. <i>Spinous</i> G. <i>Pyracantha-leaved</i> S. <i>Jamaica</i>
CELTIS.	<i>Polygam. Monœcia.</i> <i>sinensis.</i> <i>occidentalis.</i>	Gen. 1143. Sp. 1478. S. <i>Eastern</i> S. <i>Western</i>
CENTAUREA.	<i>Syngen. Polygam. Frust.</i> <i>ragulina.</i> <i>orientalis.</i>	Gen. 984. Sp. 1285. G. <i>Silver</i> G. <i>Oriental</i>

^a *Tjabe, M.*^b *Papaja, M.*^c *Cajo-Samara, M.*^d *Cajo-bakat, M.*^e *Tinda parvi.*

GENUS.	SPECIES, &c.	ENGLISH NAMES.
CERATONIA.	<i>Polygam. Triæcia.</i>	Gen. 1167. Sp. 1513.
	Siliqua,	G. Carob-tree, or St. John's Bread.
CERBERA.	<i>Pentand. Monogyn.</i>	Gen. 294. Sp. 303.
	Manghas.	S. Lanceolate-leaved Cerbera, or Ahouæi.
CERCOIDEA.	<i>erecta.</i>	S. Erect Cercoidea.
CESTRUM.	<i>Pentand. Monogyn.</i>	Gen. 261. Sp. 277.
	diurnum.	S. Day-smelling
	latifolium.	S. Broad-leaved
	nocturnum.	S. Night-smelling
	fœtidum.	S. Fetid
CHAMÆROPS.	<i>Polygam. Diæcia.</i>	Gen. 1219. Sp. 1657.
	humilis.	S. Dwarf
	mitis.	S. Mild
CHENOPODIUM.	<i>Pentand. Digynia.</i>	Gen. 309. Sp. 318.
	capense.	G. Cape
	rugosum.	G. Wrinkly
	multifidum.	G. Shrubby
CHIRONIA.	<i>Pentand. Monogyn.</i>	Gen. 255. Sp. 272.
	frutescens.	S. Shrubby
	lacerum.	S. Jagged
CHRYSANTHEMUM. ^a	<i>Syngen. Polyg. superf.</i>	Gen. 966. Sp. 1251.
	flosculosum.	G. Cretan
	maritimum.	G. Sea
CHRYSOCOMA.	<i>Syngen. Polygam. Æqualis.</i>	Gen. 939. Sp. 1177.
	Coma Aurea.	G. Greater shrubby, or
	retusa.	G. Retuse [African]
	Artemisioides.	G. Mugwort-leaved
CINCHONA. ^b	<i>Pentand. Monogyn.</i>	Gen. 228. Sp. 244.
	officinalis.	S. Peruvian Bark.
CINERARIA.	<i>Syngen. Polygam. superf.</i>	Gen. 957. Sp. 1242.
	geifolia.	G. Ground Ivy-leaved
	angulata.	G. Blue Cape Aster, or
	populifolia.	G. Poplar-leaved [Cape]
	Amellobides.	G. Opposite-leaved
CISSAMPELOS.	<i>Diæcia Monadelph.</i>	Gen. 1138. Sp. 1473.
	Caapeba.	G. Velvet-leaf.
CISTUS.	<i>Polyand. Monog.</i>	Gen. 673. Sp. 736.
	creticus.	G. Cretan
	Sicyoides.	G. Cucumber-leaved

^a Tjonge, M.^b See Remarks on the Cinchona, in the Life of Dr. FOTHERGILL; the Note on which I shall transcribe. "A Friend of Dr. Clarke's, of Jamaica, (Alexander Roberts) has lately found a species of the Cinchona with racemose flowers, very similar to those of the Cinchona Caribæa of Jaquin and Linnæus, and

to the Cinchona Jamaicensis of Dr. Wright, described in the Philosophical Transactions, vol. lxvii. p. 504. In the year 1781 a periodical publication, entitled The Jamaica Magazine, commenced; and in the third, fourth, and fifth numbers, the Jamaica Cinchona is particularly described."

GENUS.	SPECIES, &c.	ENGLISH NAMES.
CISTUS.	Vitiginea.	G. Vine-leaved
	populifolius.	G. Poplar-leaved
	trifoliata.	G. Three-leaved
	halimifolius.	G. Sea Purslane-leaved
	albidus.	G. White
	falvifolius.	G. Sage-leaved
	Helianthemum.	G. Dwarf
	laurifolius.	G. Laurel-leaved
	lævipes.	G. Heath-leaved
	rofaceus.	G. Rose
CITRUS. ^a	Tuberaria.	G. Plantain-leaved
	Pentand. Icosand.	Gen. 901. Sp. 1100.
	Medica.	G. Citron
	Limonium.	G. Lemon
	Aurantium Sin.	G. China Orange
	orientalis.	G. Willow-leaved Orange
	Aurantium acre.	G. Seville Orange
	myrtifolia.	G. Myrtle-leaved Orange
	pumila.	G. Dwarf Nutmeg Orange
	trifoliata.	G. Three-leaved Orange
CLAYTONIA.	Spinosa.	G. Lime
	Pentand. Monogyn.	Gen. 287. Sp. 294.
CLIFFORTIA.	virginica.	S. Virginian
	Diæcia Polyand.	Gen. 1133. Sp. 1469.
CLITORIA. ^b	ilicifolia.	G. Ilex-leaved
	Diadelph. Decand.	Gen. 869. Sp. 1025.
CLUSIA.	Ternatea.	S. White Wing-leaved
	Polygam. Monæcia.	Gen. 1154. Sp. 1495.
CLUTIA.	flava.	S. Yellow-flowered
	Diæcia Gynand.	Gen. 1140. Sp. 1475.
	alaternoides.	G. Narrow-leaved
COCCOLOBA.	pulchella.	S. Broad-leaved
	Oftand. Trigynia.	Gen. 496. Sp. 523.
COCOS. ^c	punctata.	S. Spotted
	Monæcia Hexand.	Gen. 1223. Sp. 1658.
COFFEA.	nucifera.	S. Cocoa
	Pentand. Monogyn.	Gen. 230. Sp. 245.
COIX. ^d	arabica.	S. True, or Arabian
	Monæc. Triand.	Gen. 1043. Sp. 1378.
COLUMNEA.	Lachryma.	S. Job's Tears.
	Didyn. Angiosp.	Gen. 792. Sp. 891.
COLUTEA.	humilis.	S. Dwarf
	Monæcia Triand.	Gen. 880. Sp. 1045.
	frutescens.	G. Scarlet, or shrubby

^a Fourcock, M.

^b Borga-ciru, M.

^c Clappa, M.

^d Sajor-trorboe, M.

GENUS.	SPECIES, &c.	ENGLISH NAMES.	
COMMELINA. ^a	<i>Triand. Monogyn.</i>	Gen. 62. Sp. 60.	
	<i>africana.</i>	S. <i>Creeping African</i>	} Commelina.
	<i>tuberosa.</i>	S. <i>Tuberous-rooted</i>	
CONVOLVULUS. ^b	<i>Pentand. Monog.</i>	Gen. 215. Sp. 218. 1668.	} Bindweed.
	<i>canariensis.</i>	G. <i>Canary</i>	
	<i>farinosus.</i>	G. <i>Mealy</i>	
	<i>panduratus.</i>	G. <i>Fiddle</i>	
	<i>hederaceus.</i>	G. <i>Ivy-leaved</i>	
	<i>Cneorum.</i>	G. <i>Silver-leaved</i>	
	<i>vitifolius.</i>	G. <i>Vine-leaved</i> [brian]	
	<i>cantabrica.</i>	G. <i>Flax-leaved, or Cantab-</i>	
	<i>althæoides.</i>	G. <i>Mallox-leaved</i>	
	<i>Dorycnium.</i>	G. <i>Eastern</i>	
	<i>Batatas.</i>	<i>Tuberous-rooted</i>	
CONYZA.	<i>Syngen. Polyg. superf.</i>	Gen. 950. Sp. 1205.	} Fleabane.
	<i>candida.</i>	G. <i>Cretan</i>	
	<i>mollis.</i>	G. <i>Soft-leaved</i>	
	<i>fordida.</i>	G. <i>Dirty</i>	
	<i>vicosa.</i>	G. <i>Clammy</i>	
CORDIA.	<i>Pentand. Monog.</i>	Gen. 256. Sp. 273.	
	<i>Sebestena.</i>	S. <i>Lignum Aloes.</i>	
CORNUTIA.	<i>Didynam. Angiosp.</i>	Gen. 766. Sp. 875.	} Cornutia.
	<i>pyramidalis.</i>	S. <i>Pyramidal</i>	
CORONILLA.	<i>Diadelph. Decand.</i>	Gen. 883. Sp. 1046.	} Joint-podded Colutea.
	<i>juncea.</i>	G. <i>Rush-leaved</i>	
	<i>glauca.</i>	G. <i>Lesser</i>	
	<i>valentina.</i>	G. <i>Greater</i>	
	<i>argentea.</i>	G. <i>Silver-leaved</i>	
CORYPHA.	<i>umbraculifera.</i>	Gen. 1221. Sp. 1657.	} Palm.
		S. <i>Thatched</i>	
COSTUS.	<i>Monand. Monogyn.</i>	Gen. 3. Sp. 2.	} Costus.
	<i>arabicus.</i>	S. <i>Arabian</i>	
COTULA.	<i>Syngen. Polyg. superf.</i>	Gen. 968. Sp. 1256.	} Tansey.
	<i>tanacetifolia.</i>	G. <i>Shrubby</i>	
	<i>stricta.</i>	G. <i>Upright</i>	} Navel-wort.
COTYLEDON. ^c	<i>Decand. Pentag.</i>	Gen. 578. Sp. 614.	
	<i>orbiculata.</i>	G. <i>Round-leaved</i>	
	<i>hemispherica.</i>	G. <i>Semi-globular</i>	
	<i>ferrata.</i>	G. <i>Saw-leaved</i>	} Lesser Orpine.
CRASSULA. ^d		Gen. 396. Sp. 404.	
	<i>coccinea.</i>	G. <i>Scarlet</i>	
	<i>cultrata.</i>	G. <i>Orpine-leaved</i>	
	<i>tetragona.</i>	G. <i>Square-leaved</i>	
	<i>pellucida.</i>	S. <i>Pellucid</i>	

^a Sajor-Culla, M.^b Daun-Canleng, M.^c Sajor-bebek, M.^d Daun-Manio, M.

GENUS.	SPECIES, &c.	ENGLISH NAMES.
CRASSULA.	perfoliata.	S. Jacob's-ladder
	punctata.	S. Spotted
	quadrata.	S. Whip-cord
	scabra.	S. Smooth-leaved
		} Lesser Orpine.
CRESCENTIA.	<i>Didynam. Angiosperm.</i>	Gen. 762. Sp. 872.
	Cujete.	S. Calabash Tree.
CRINUM. ^a	<i>Hexand. Monog.</i>	Gen. 405. Sp. 419.
	africanum.	S. African
	latifolium.	S. Broad-leaved
	asiaticum.	S. Asiatic
	longifolium.	S. Long-leaved
	pendulum.	S. Pendulous
	americanum.	S. American
	zeylanicum.	S. Zeylon
		} Lily Asphodel.
CROTALARIA. ^b	<i>Diadelph. Decand.</i>	Gen. 862. Sp. 1003.
	turgida.	Swoln
	laburnifolia.	S. Laburnum-leaved
	jamaicensis.	S. Jamaican
	chinensis.	S. China
		} Crotalaria.
CROTON. ^c	<i>Monœcia Monand.</i>	Gen. 1083. Sp. 1424.
	sebiferum.	G. Poplar-leaved
	Cascarilla.	S. Sweet-scented
	glabellum.	S. Smooth oval-leaved
	acerifolium.	S. Maple-leaved
		} Tallow-tree.
CUPRESSUS.	<i>Monœcia Monand.</i>	Gen. 1079. Sp. 1422.
	juniperoides.	G. Cape
		} Cypress-tree.
CURCUMA.	<i>Monand. Monog.</i>	Gen. 6. Sp. 3.
	longa.	S. Long-rooted
		} Turmeric.
CYCAS.		Gen. 1222. Sp. 1658.
	circinalis.	S. Sago
	guinenfis.	S. Guinea
	latifolia.	S. Broad-leaved
		} Palm.
CYCLAMEN.	<i>Pentand. Monog.</i>	Gen. 201. Sp. 207.
	indicum.	G. Persian
	odoratum.	G. Sweet
		} Sow Bread.
CYNANCHUM.	<i>Pentand. Digyn.</i>	Gen. 304. Sp. 310.
	hirtum.	S. American
	suberosum.	S. Spongy
		} Scammony.
DAPHNE.	<i>Octand. Monog.</i>	Gen. 485. Sp. 509.
	indica.	S. Indian
	Cneorum.	S. Silver-leaved
		} Daphne.
DELIMA.	<i>Polyand. Monog.</i>	Gen. 672. Sp. 736.
	farmentosa.	S. Branching
		} Delima.
DIGITALIS.	<i>Didynam. Angiosp.</i>	Gen. 758. Sp. 866.
	canariensis.	G. Canary
	obscura.	G. Black Spanish
		} Fox-glove.

^a Bacang, M.

^b Sago Pohon, M.

^c Daun Maat, M.

GENUS.	SPECIES, &c.	ENGLISH NAMES.
DIONÆA.	<i>Decand. Monog.</i> Muscipula.	Gen. Sp. G. Venus Fly-trap.
DIOSCOREA.*	<i>Diœcia Hexand.</i> bulbifera.	Gen. 1122. Sp. 1462. S. West Indian Yam.
DIOSMA.	<i>Pentand. Monog.</i> oppositifolia. hirsuta. rubra. ericoides. capensis.	Gen. 272. Sp. 286. Opposite-leaved Hairy Red Heath-leaved Cape } African Spirœa, or Diosma.
DOLICHOS.*	<i>Diadelph. Decand.</i> sempervirens. brasiliensis. lignosus. capensis.	Gen. 867. Sp. 1018. G. Evergreen G. Brazilian G. Ligneous G. Cape } Dolichos, or Creepers.
DRACÆNA.	Draco. ensifolia. erecta. terminalis..	S. True S. Sword-shaped leaved S. Upright S. Herbaceous Iron-tree } Dragon-tree.
DRACONTIUM.*	<i>Gynand. Polyand.</i> pertusum.	Gen. 1029. Sp. 1372. S. Perforate-leaved Dragons.
DURANTA.	<i>Didynam. Angiosp.</i> Plumieri. Ellisia.	Gen. 786. Sp. 888. S. Creeping prickly S. Upright } Duranta, or Castorea.
ECHITES.*	<i>Pentand. Monog.</i> suberecta.	Gen. 299. Sp. 307. 1671. S. Upright Echites.
EHRETIA.	<i>Pentand. Monog.</i> tinifolia. Bourreria.	Gen. 257. Sp. 274. S. Laurus-tinus leaved S. Honeysuckle-leaved } Ehretia.
ERICA.	<i>Octand. Monog.</i> triflora. carnea. cerinthoides. abietina. australis. multiflora. baccans. curviflora. fucata. longiflora. urceolens. arborea.	Gen. 484. Sp. 501. 1672. G. Three-flowered G. Flesh-coloured G. Scarlet-flowered G. Juniper-leaved G. Spanish, or Mediterra- G. Many-flowered. [near G. Three-leaved G. Curve-flowered G. Painted G. Long-flowered G. Pitcher G. Shrubby } Heath.
ERIGERON.	<i>Syngen. Polyg. superfl.</i> foetidum.	Gen. 951. Sp. 1209. S. Fetid Erigeron.

* Jan Raja, M.
* Cadjang, M.

* Takka, M.
* Carandas, M.

ERINUS.

GENUS.	SPECIES, &c.	ENGLISH NAMES.
ERINUS.	<i>Didynam. Angiosperm.</i> alpinus.	Gen. 771. Sp. 878. G. Purple Alpine Erinus.
ERIOCEPHALUS.	<i>Syngen. Polygam. neceff.</i> africanus. racemosus.	Gen. 994. Sp. 1310. G. African G. Silvery-leaved } Eriocephalus.
ERYTHRINA. ^a	<i>Diadelph. Decand.</i> herbacea. Corallodendron. picta.	Gen. 855. Sp. 992. S. Herbaceous S. True } Coral Tree. S. Black spined
EUGENIA. ^b	<i>Icosand. Monog.</i> Jambos. malaccensis. nova species.	Gen. 616. Sp. 672. S. West India S. East India S. New species } Pomme Rose.
EUPHORBIA. ^c	<i>Dodecand. Pentag.</i> antiquorum. canariensis. officinarum. Clavi Herculis. neriifolia. mauritanica. cotonifolia. cordifolia, vel padifolia. } cereiformis. Characias. Caput Medusæ. Tithymaloides. amygdaloides variegata. } spinosa. Tirucalli.	Gen. 609. Sp. 646. S. Triangular S. Canary S. Medicinal S. Hercules Club S. Oleander-leaved S. African S. Rhus-leaved S. Padus-leaved } Spurge. Torch-thistle G. Red-stalked G. Medusa's head G. Myrtle-leaved G. Striped Prickly G. Tree
FAGARA.	<i>Tetrand. Monog.</i> Pterota.	Gen. 150. Sp. 172. S. Iron-wood, or Lechea.
FERRARIA.	<i>Gynand. Triand.</i> undulata.	Gen. 1018. Sp. 1353. S. Undulated Starry Iris.
FIGUS. ^d	<i>Polyg. Polyæcia.</i> religiosa. benghalensis. racemosa. dumosa. indica. pumila.	Gen. 1163. Sp. 1513. S. Poplar-leaved S. Bengal S. Clustered S. Bushy S. Indian S. Dwarf } Fig-tree.

^a *Gelaga*, M.

^b Or *Jambosa-domestica*; the Malabar name is *Jamboli*. The West Indian, or Jambos, was brought from the East Indies originally. *Jamboss*, M.

^c *Sudu-judu*, M.

^d Figs grow in great perfection in Carolina, and would become a valuable trade, if the inhabitants had the method of curing them as in Turkey. *Varingin*, M.

GENUS.	SPECIES, &c.	ENGLISH NAMES.
FRITTILLARIA.	<i>Hexand. Monog.</i>	Gen. 411. Sp. 435.
	regia.	S. Royal, or greater
GALENIA.	nana.	S. Lesser
	<i>Oftand. Digyn.</i>	Gen. 492. Sp. 515.
GARDENIA.*	africana.	G. African
	<i>Pentand. Monogyn.</i>	Gen. 492. Sp. 305. 1679.
GENISTA.	florida-fl. plen.	S. Double-flowered
	flore simplici.	S. Single-flowered
GERANIUM.	<i>Diadelph. Decand.</i>	Gen. 859. Sp. 997.
	canariensis.	G. Canary
	spinosa	G. Spinous
	candicans.	G. Montpellier
	<i>Monod. Enneand.</i>	Gen. 832. Sp. 945.
	inquinans.	G. Common scarlet
	papilionaceum.	G. Butterfly
	cucullatum.	G. Hollow-leaved
	peltatum.	G. Ivy-leaved
	acetosum.	G. Sorrel-leaved
	zonale.	G. Horse-shoe
	variegatum.	G. Striped-leaved
	vitifolium.	G. Balm-scented
	capitatum.	G. Rose-scented
	alchemilloides.	G. Lady's-mantle-leaved
	odoratissimum.	G. Musk
	grossularoides.	G. Gooseberry-leaved
	gibbosum.	G. Gouty-stalked
	fulgidum.	G. Flaming red
	lobatum.	G. Vine-leaved
	hybridum.	G. Hybrid
	rutilans.	G. Multifid
	terebinthinum.	G. Aromatic-smelling
	cordifolium.	G. Heart-leaved
	glaucophyllum.	G. Glaucous
	orientale.	G. Oriental
	scabrum.	G. Rough
	lacerum.	G. Jagged
	carnosum.	G. Fleshy-stalked
	trigonum.	G. Triangular-stalked
	triste.	G. { Anemony-leaved, or Night-smelling
	hirsutum.	G. Hairy
	laevigatum.	G. Smooth-leaved
	pinnatum.	G. Wing-leaved
	lanceolatum.	G. Spear-shaped
	cotyledonis.	G. OrbicularHeart-shaped
	glutinosum.	G. Glutinous

* Catys-piring, M.

GESNERIA.

GENUS.	SPECIES, &c.	ENGLISH NAMES.
GESNERIA.	<i>Didynam. Angiosperm.</i> <i>tomentosa.</i>	Gen. 749. Sp. 850. S. Woolly-leaved Gesneria.
GLADIOLUS.	<i>Triand. Monog.</i> <i>spicatus.</i>	Gen. 57. Sp. 52. S. Spiked
	<i>tristis.</i>	G. { Spotted-flowered, or sorrowful
	<i>angustus.</i>	S. Narrow-leaved
	<i>blandus.</i>	G. Smooth-leaved
	<i>plicatus.</i>	G. Plaited
	<i>strictus.</i>	G. Straight
	<i>byzantinus.</i>	G. Byzantine
GLEDITSIA.	<i>Polygam. Diœcia.</i> <i>monosperma.</i> <i>orientalis.</i>	Gen. 1159. Sp. 1509. S. Single-seeded S. Eastern } Gleditsia.
GLORIOSA.	<i>Hexand. Monog.</i> <i>superba.</i>	Gen. 413. Sp. 437. S. Superb Lily.
GNAPHALIUM.	<i>Syngen. Polyg. superfl.</i> <i>sessilifolium.</i> <i>trifurcatum.</i> <i>Stæchas.</i> <i>orientale.</i> <i>ericoides.</i> <i>cylindricum.</i> <i>flabelliforme.</i>	Gen. 946. Sp. 1191. G. Sessile-leaved G. Three-forked G. Common G. Eastern G. Heath-leaved G. Oblong-leaved G. Fan-shaped } Tree Everlasting.
GORDONIA.	<i>Lasianthus.</i>	G. Loblolly Bay.
GORTERIA.	<i>Syngen. Polygam. Frust.</i> <i>ringens.</i> <i>fetosa.</i> <i>ciliaris.</i>	Gen. 982. Sp. 1283. G. Grinning G. Bristly G. Hairy-leaved } Gorteria.
GOSSYPIUM. ^a	<i>Monand. Polyand.</i> <i>arboreum.</i> <i>religiosum.</i>	Gen. 845. Sp. 975. S. Shrubby S. Vine-leaved } Cotton.
GOUANIA.	<i>Polygam. Monœcia.</i> <i>domingensis.</i>	Gen. 1157. Sp. S. Domingo Gouania. ^b
GREWIA. ^c	<i>Gynand. Polyand.</i> <i>occidentalis.</i> <i>orientalis.</i> <i>Microcos.</i>	Gen. 1026. Sp. 1367. G. Elm-leaved S. Eastern S. Panicked } Grewia.
GUAJACUM.	<i>Decand. Monog.</i> <i>officinale.</i> <i>sanctum.</i> <i>afrum.</i>	Gen. 518. Sp. 546. S. Officinal S. Holy S. Myrtle-leaved } Lignum Vitæ.
GUILANDINA. ^d	<i>Decand. Monog.</i> <i>Bonduc.</i>	Gen. 517. Sp. 545. S. Indian Nicker-tree.

^a Copas, M.^b So called from Professor Gouan.^c Cajou-Ceram, M.^d Klitti, M.

GENUS.	SPECIES, &c.	ENGLISH NAMES.
GUILANDINA.	Bonducella.	S. Lesser
	Moringa. ^a	S. Zeylon
	lacerans.	S. Rending
GURULLA.		
	asiatica.	S. Asiatic
HÆMANTHUS.	Hexand. Monog.	Gen. 400. Sp. 412.
	coccineus.	S. Tongue-leaved
	puniceus.	S. Waved-leaved
	ciliaris.	S. Hairy
	villosus.	S. Villous
HÆMATOXYLUM.	Decand. Monog.	Gen. 525. Sp. 549.
	Campechianum.	S. Logwood.
HALLERIA.	Didynam. Angiosperm.	Gen. 761. Sp. 872.
	lucida.	G. African-fly
HEDYSARUM. ^b	Diadelph. Decand.	Gen. 887. Sp. 1051.
	styracifolium.	S. Storax-leaved
	amentaceum.	S. Amentaceous
	movens.	S. Moving Plant.
HELICTERES. ^c	Gynand. Decand.	Gen. 1025. Sp. 1366.
	Ifora.	S. Screw-tree.
HELIOTROPIMUM.	Pentand. Monog.	Gen. 179. Sp. 187.
	peruvianum.	S. Sweet-scented, or Peruvian Turnsole.
HERMANNIA.	Tetradyn. Pentand.	Gen. 828. Sp. 941.
	althæifolia.	G. Marshmallow-leaved
	candicans.	G. White
	alnifolia.	G. Alder-leaved
	lavendulifolia.	G. Lavender-leaved
	grossularifolia.	G. Gooseberry-leaved
HERNANDIA. ^d	Monodelph. Pentand.	Gen. 1049. Sp. 1391.
	sonora.	S. Jack in a Box.
HIBISCUS. ^e	Monodelph. Polyand.	Gen. 846. Sp. 975.
	tiliaceus.	S. Lime-leaved
	Rosa Sinensis.	S. China Rose
	mutabilis.	S. Changeable Rose
	malvaviscus.	S. Mallow-leaved
	speciosus.	S. Shewy
	Abelmoschus.	S. Musk-leaved
	Sabdariffa.	S. Cut-leaved
HIPPIA.		
	frutescens.	G. Ethiopian Shrubby
HOPEA.		
	tinctoria.	G. Called after Dr. Hope.

^a Or *Nipbriticum Lignum*. The Malabar name is *Moringu*. In Ceylon it is called *Katu murungba*, or *Wattu-murunga*. In Malay, *Cancordoe*.

^b *Cadjang-goenong*, M.

^c *Bona-radja*, M.

^d *Cajo-raja*, M.

^e *Dawn-caru*, M.

GENUS. SPECIES, &c. ENGLISH NAMES.

HURA.	<i>Monæcia Monadelph.</i>	Gen. 1087. Sp. 1431.	
	crepitans.	S. Sand-box tree.	
HYDROCOTYLE.	<i>Pentand. Digyn.</i>	Gen. 325. Sp. 338.	
	asiatica.	S. Asiatic	Pennywort.
HYMENÆA. ²	<i>Decand. Monogyn.</i>	Gen. 512. Sp. 537.	
	Courbaril.	S. Locust, or Gum	Elemi-tree.
HYOSCYAMUS.	<i>Pentand. Monog.</i>	Gen. 247. Sp. 257.	
	aureus.	G. Golden	Henbane.
HYPERICUM.	<i>Polyadelph. Polyand.</i>	Gen. 902. Sp. 1101.	
	balearicum.	G. Minorcan	} St. John's Wort.
	olympicum.	G. Olympian	
	monogynum.	G. Chinese Tutsan	
JASMINUM.	<i>Diand. Monogyn.</i>	Gen. 17. Sp. 9.	
	grandiflorum.	G. Great flowered, or Ca-	} Jasmine.
	azoricum.	G. Azorian [atalonian	
	odoratissimum.	G. Yellow Indian, or most fragrant	
JATROPHA. ^b	<i>Monæcia Monad.</i>	Gen. 1084. Sp. 1428.	
	multifida.	S. Multifid	} French Physic-nut.
	Curcas.	S. Angular-leaved, or	
	urens.	S. Stinging [American	
	gossypifolia.	S. Gooseberry-leaved	
IBERIS.	<i>Tetradyn. Siliculosa.</i>	Gen. 804. Sp. 904.	
	semperflorens.	G. Broad-leaved	} Candy Tuft-tree.
	sempervirens.	G. Narrow-leaved	
	flor. variegatis.	G. Striped-leaved	
	gibraltica.	G. Gibraltar	
	saxatilis.	G. Rock	
ILEX.	<i>Tetrand. Tetragyn.</i>	Gen. 172. Sp. 181.	
	asiatica.	G. Perado-tree.	
ILLICIUM.	<i>Dodecand. Polygyn.</i>	Gen. 611. Sp. 664.	
	floridanum.	S. Starry	Aniseed.
INDIGOFERA.	<i>Diadelph. Decand.</i>	Gen. 889. Sp. 1061.	
	scandens.	S. Climbing	} Indigo.
	pforaloides.	S. Pforalea-like	
JUNIPERUS.	<i>Diæcia Monadelph.</i>	Gen. 1134. Sp. 1470.	
	bermudiana.	G. Bermudas.	} Cedar.
	phœnicea.	G. Phœnician	
JUSTICIA. ^c	<i>Diand. Monogyn.</i>	Gen. 27. Sp. 20. 1663.	
	Adhatoda.	G. Malabar Nut.	} Malabar Nut.
	Ecboium.	S. Reflexed-flowered	
	hyssopifolia.	S. Hyssop-leaved	
	picta.	S. Spotted, or painted	

^a This tree is supposed to yield the true Gum grows wild in the American islands, the Moskito Copal, and that the difference between this and Gum Shore, and in Terra Firma. ^b *Dann-Maas, M.* ^c *Dann-Prada, M.*

GENUS. SPECIES, &c. ENGLISH NAMES.

IXIA.	<i>Triand. Monogyn.</i>	Gen. 56. Sp. 51. 1664.	
	<i>pulcherrima.</i>	G. Most beautiful	
	<i>squalida.</i>	G. Squalid	
	<i>longicaulis.</i>	G. Long-stalked	
	<i>plicata.</i>	G. Plaited	
	<i>chinensis.</i>	G. Chinese	
	<i>speciosa.</i>	G. Showy	
	<i>crocata.</i>	G. Saffron-coloured	
	<i>flexuosa.</i>	G. Flexible-branched	} Ixia.
	<i>bulbifera.</i>	G. Bulb-bearing	
	<i>Bulbocodium.</i>	G. Bulbocodium	
	<i>polystachia.</i>	G. Many spiked	
	<i>violacea.</i>	G. Violet-coloured	
	<i>maculata.</i>	G. Spotted-flowered	
	<i>tubiflora.</i>	G. Tube-flowered	
	<i>trifoliata.</i>	G. Three-leaved	
IXORA. ^a	<i>Tetrand. Monogyn.</i>	Gen. 131. Sp. 159.	
	<i>coccinea.</i>	S. Scarlet	Wild Jasmine.
KÆMPFERIA. ^b	<i>Monand. Monogyn.</i>	Gen. 7. Sp. 3.	
	<i>Galanga.</i>	S. Oval-leaved	Galangal.
KIGGELARIA.	<i>Diacia Decand.</i>	Gen. 1128. Sp. 1466.	
	<i>africana.</i>	G. African	Kiggelaria.
LACHNÆA.	<i>Octand. Digyn.</i>	Gen. 490. Sp. 514.	
	<i>conglomerata.</i>	G. Clustered	Lachnea.
LAGERSTROEMIA.	<i>Polyand. Monogyn.</i>	Gen. 667. Sp. 733.	
	<i>indica.</i>	S. Eastern Lagerstroemia, or Munchausia.	
LANTANA.	<i>Didynam. Angiosperm.</i>	Gen. 765. Sp. 873.	
	<i>salvifolia.</i>	G. Sage-leaved	
	<i>africana.</i>	G. African Ilex-leaved	
	<i>involucrata.</i>	S. Round-leaved	} American Viburnum.
	<i>Camara.</i>	S. Smooth Nettle-leaved	
	<i>aculeata.</i>	S. Nettle-leaved	
	<i>trifolia.</i>	S. Three-leaved	
LAVANDULA.	<i>Didynam. Gynosperm.</i>	Gen. 711. Sp. 800.	
	<i>multifida.</i>	G. Canary	} Lavender-tree.
	<i>dentata.</i>	G. Serrated-leaved	
LAVATERA.	<i>Monadelph. Polyand.</i>	Gen. 842. Sp. 972.	
	<i>olbia.</i>	G. Small-flowered	Mallow.
LAURUS. ^c	<i>Enneand. Monog.</i>	Gen. 503. Sp. 528.	
	<i>Camphora.^d</i>	G. Camphor-tree	Bay-tree.

Borbonica.

^a Djarong, M.^b Tjorkor, M.^c Laurus in the Malay is *Randou*.^d The Camphire from Sumatra is greatly preferable to that of Japan: we are not certain whether it is from a different species of tree; but it seems well

worth enquiring into, as the effects of proportionable quantities in medicine are surprizingly different; perhaps it may be owing to the great difference of heat in the climates. *ELLS* on transplanting Seeds, p. 27. It may be doubted whether we are yet in possession of the true Camphor-tree. In Arabic it is called *Capur*,

GENUS.	SPECIES, &c.	ENGLISH NAMES.
LAURUS.	Borbonia.	G. <i>Carolina</i>
	indica.	G. <i>Laurus Regis</i>
	foetans.	G. <i>Stinking</i>
	nobilis.	G. <i>Noble</i>
	Cinnamomum. ^a	S. <i>Cinnamon-tree</i>
	Cassia.	S. <i>Bastard ditto</i>
LAWSONIA. ^b	Persea.	S. <i>Allegator Pear</i>
	<i>Offand. Monog.</i>	Gen. 482. Sp. 498.
LEEAE. ^c	spinosa.	S. <i>Spinous</i>
		Lawsonia.
LECHEA.	crispa.	S. <i>Curled-stalked</i>
	æquata.	S. <i>Downy-stalked</i>
LIMODORUM.	<i>Triand. Trigyn.</i>	Gen. 109. Sp. 133.
	major.	S. <i>Greater</i>
LINUM.	<i>Gynand. Diand.</i>	Gen. 1013. Sp. 1345.
	tuberosum.	S. <i>Purple</i>
LOBELIA.	<i>Pentand. Pentagyn.</i>	Gen. 389. Sp. 397. 1672.
	maritimum.	G. <i>Sea</i>
LOTUS.	<i>Syngen. Monogam.</i>	Gen. 1006. Sp. 1317.
	longiflora.	S. <i>Long-tubed</i>
	coronopifolia.	S. <i>Swines-crefs</i>
LUDWIGIA. ^d	<i>Diadelph. Decand.</i>	Gen. 897. Sp. 1089.
	jacobæus.	G. <i>Black</i>
	creticus.	G. <i>Cretan, or silvery-leaved</i>
LYCHNIS.	<i>Dorycnium.</i>	G. <i>Montpelier</i>
	<i>Tetrand. Monogyn.</i>	Gen. 153. Sp. 173.
LYCIUM.	ovata.	S. <i>Ovate</i>
	<i>Decand. Pentag.</i>	Gen. 584. Sp. 625.
	coccinea.	S. <i>Scarlet Chinese</i>
MALPIGHIA.	coronata.	S. <i>Crowned</i>
	<i>Pentand. Monog.</i>	Gen. 262. Sp. 277.
	barbarum.	G. <i>Prickly</i>
	<i>Decand. Trigyn.</i>	Gen. 572. Sp. 609.
	glabra.	S. <i>Smooth-leaved</i>

Capur, and *Cafur*; in Sumatra, *Capoor Barroos*. Consult Marsden's ingenious History of Sumatra, just published, p. 120. & seq. Kæmpferi Amœnitates, p. 773. By a particular process, Camphire is procured in a liquid state, resembling oil, and is much used by the Sumatrans in strains, swellings, and inflammations. A respectable Surgeon in London has informed me, that he applied this Camphire oil to the scrophulous glands of a child's neck, soon after which the disease disappeared.

^a Though a species of Cinnamon has been introduced into the French West India islands, its quality is so much inferior to the best Ceylon, as to

excite a suspicion that the West India is a different species. In Ceylon it is called *Kurundu*. In the Moluccas, the island of Batsjan, Java, and in Borneo, there is a species of *Laurus* nearly resembling the Cinnamon; it has more of the flavour of Cloves than of Cinnamon, and is perhaps the Cinnamon of Guadaloupe, &c. In Borneo it is called *Culitlawan*. Mr. Le Poivre says, that Cochinchina produces Cinnamon, though in small quantity, yet much superior in quality to the Ceylon.

^b *Patjar-tjalong*, M.

^c *Sajor-babek*, M.

^d *Seroni-aiger*, M.

GENUS.	SPECIES, &c.	ENGLISH NAMES.
MALPIGHIA.	urens.	S. <i>Stinging</i> } Barbadoes
	verbascifolia.	S. <i>Mullein-leaved</i> } Cherry.
MALVA.	<i>Monadelph. Polyand.</i>	Gen. 841. Sp. 967. 1675.
	capensis.	S. <i>Cape</i> } Mallow.
MAMMEA.	<i>Polyand. Monog.</i>	Gen. 656. Sp. 731.
	americana.	S. <i>American</i> } Mammee Apple.
MANGIFERA.	<i>Pentand. Monog.</i>	Gen. 278. Sp. 290.
	indica.	S. <i>Indian</i> } Mangoe-tree.
MARRUBIUM.	<i>Didynam. Gymnosf.</i>	Gen. 721. Sp. 815.
	<i>Pseudodictamnus.</i>	G. <i>Bastard Dittany</i> } Horehound.
MARTYNIA.	<i>Didynam. Angiosf.</i>	Sp. 862.
	perennis.	S. <i>Perennial</i> } Martynia.
MEDEOLA.	<i>Hexand. Trigyn.</i>	Gen. 455. Sp. 483.
	asparagoides.	G. <i>Bastard</i> } Asparagus.
MEDICAGO.	<i>Diadelph. Decand.</i>	Gen. 899. Sp. 1096.
	arborea.	G. <i>Shrubby</i> } Moon Treefoil.
MELIA. ^a	<i>Decand. Monog.</i>	Gen. 527. Sp. 550.
	Azederach.	G. <i>Common</i> } Bead-tree.
	Azadirachta.	G. <i>Indian</i> }
MELIANTHUS. ^b	<i>Didynam. Angiosf.</i>	Gen. 795. Sp. 892.
	major.	G. <i>Greater</i> } Honey-flower.
	minor.	G. <i>Lesser</i> }
MENTHA.	<i>Didynam. Gymnosf.</i>	Gen. 713. Sp. 804.
	canariensis.	G. <i>Shrubby</i> } Canary-mint.
	paniculata.	G. <i>Panicled</i> }
MESEMBRYAN-	<i>Icosand. Pentag.</i>	Gen. 628. Sp. 687.
THEMUM.	geniculiflorum.	G. <i>Jointed</i> }
	noctiflorum.	G. <i>Night-flowering</i> }
	splendens.	G. <i>Shining-flowered</i> }
	umbellatum.	G. <i>Umbellated</i> }
	calamiforme.	G. <i>Quill-leaved</i> }
	Tripolium.	G. <i>Plain-leaved</i> }
	bellidiflorum.	G. <i>Daisy-flowered.</i> }
	deltoides.	G. <i>Delta-shaped.</i> }
	var. major.	G. <i>Greater Delta</i> }
	var. minor.	G. <i>Lesser Delta</i> } Fig Marygold.
	barbatum.	G. <i>Bearded</i> }
	humile.	G. <i>Dwarf-bearded</i> }
	hispidum.	G. <i>Bristly-stalked</i> }
	striatum.	G. <i>Striped-flowered</i> }
	villosum.	G. <i>Downy-leaved</i> }
	scabrum.	G. <i>Rough-leaved</i> }
	emarginatum.	G. <i>Notched-flowered</i> }
	pugioniforme.	G. <i>Dagger-leaved</i> }

^a Foela-moergatti, M.^b Taratti-kijil, M.

GENUS. SPECIES, &c. ENGLISH NAMES.

MESEMBRYAN-
THEMUM.

uncinatum.	G.	Lesser hooked-leaved
var. major.	G.	Greater ditto
spinosum.	G.	Prickly
tuberosum.	G.	Tuberous-rooted
stipulaceum.	G.	Upright shrubby
crassifolium.	G.	Thick-leaved creeping
falcatum.	G.	Crooked-leaved
glomeratum.	G.	Crowded
loreum.	G.	Leathery-stalked
filamentosum.	G.	Six-sided purple
acinaciforme.	G.	Scymiter-shaped
forficatum.	G.	Forked
edule.	G.	Eatable-fruited
bicolorum.	G.	Two-coloured
ferratum.	G.	Saw-leaved
micans.	G.	Glittering
rostratum.	G.	Beaked
veruculatum.	G.	Spit-leaved
glaucum.	G.	Glaucous-leaved
corniculatum.	G.	Greater horned
var. minor.	G.	Lesser horned
expansum.	G.	Broad-leaved
tortuosum.	G.	Twisted-leaved
ringens caninum.	G.	Dog's chops
ringens felinum.	G.	Cat's chops
aggregatum.	G.	Clustered
gibbosum.	G.	Gibbous
pubescens.	G.	Downy
procumbens.	G.	Procumbent
ciliatum.	G.	Fringed
carinatum.	G.	Keeled
cordifolium.	G.	Heart-leaved
fissum.	G.	Cloven
capense.	G.	Cape
lævigatum.	G.	Smooth-leaved
fucculentum.	G.	Succulent
echinatum.	G.	Prickly
scalpatrum.	G.	Broad-leaved
villosum.	G.	Hairy
Tripolium.	G.	Sea-starwort
testiculatum.	G.	Testiculated
dolabriforme.	G.	Hatchet-leaved
difforme.	G.	Deformed
albidum.	G.	White

Fig Marygold.

GENUS.	SPECIES, &c.	ENGLISH NAMES.
MESEMBRYANTHEMUM.	linguiforme.	G. Tongue-leaved
	aureum.	G. Golden
	decumbens.	G. Prostrate
	australe.	G. Southern
	tenuifolium.	G. Slender-leaved
		} Fig Marygold.
MIMOSA. ^a	<i>Polygam. Monœcia.</i>	Gen. 1158. Sp. 1498.
	latifolia.	S. Broad-leaved
	pernambucana.	S. Pernambuque, or Italian
	cornigera.	S. Horned
	arborea.	S. Indian-tree
	nilotica.	S. Gum Arabic
	tamarindifolia.	S. Tamarind-leaved
	pudica.	S. Humble Plant
	farnesiana.	S. Indian Gazia
	latifiliqua	S. Broad-podded
	virgata.	S. Twigged
	unguis Cati.	S. Twisted-podded
	jamaicensis.	S. Jamaican
	vaga.	S. Fraxinella-leaved
	punctata.	S. Dotted
	japonica.	S. Japonic
	monosperma.	S. Single-seeded
	reticulata.	S. Reticulated
	glauca.	S. Glaucons
	horrida.	S. Horrid
	peregrina.	S. American
	Intsia.	S. Indian
	circinalis.	S. Spiral
	simplicifolia.	S. Simple-leaved
	montana.	S. Mountain
	Lebbeck.	S. Egyptian
	pigra.	S. Long-spined
		} Acacia, or Sensitive Plant.
MORÆA.	<i>Triand. Monogyn.</i>	Gen. 60. Sp. 59.
	vegeta.	G. Sword-shape leaved
	iridioides.	G. Iris-leaved
		} Moræa.
MURRAYA.	exotica.	S. Exotic
		Murraya.
MUSA.	<i>Polygam. Monœcia.</i>	Gen. 1141. Sp. 1477.
	paradisifolia.	S. Plantain-tree.
MYRICA.	<i>Diœcia Pentand.</i>	Gen. 1107. Sp. 1453.
	quercifolia.	G. Oak-leaved
	cereifolia.	G. Cereus-leaved
		} Candleberry
MYRSINE.	<i>Pentand. Monog.</i>	Gen. 269. Sp. 285.
	africana.	G. African
		} Box-tree.

^a Parrang, M.

GENUS.	SPECIES, &c.	ENGLISH NAMES.
MYRTUS. ^a	<i>Icosand. Monog.</i>	Gen. 617. Sp. 673.
	communis.	G. Broad-leaved
	romana.	G. Roman
	tarentina.	G. Box-leaved
	italica.	G. Upright
	boetica.	G. Orange-leaved
	mucronata.	G. Nutmeg-leaved
	rosmarinifolia.	G. Rosemary-leaved
	maculata.	G. Blotch-leaved
	trifoliata.	G. Three-leaved
	zeylanica.	S. Zeylon
	Pimento.	S. Allspice, or long-leaved
	var. rotundifolia.	S. Round-leaved
		} Myrtle.
NERIUM. ^b	<i>Pentand. Monogyn.</i>	Gen. 297. Sp. 305.
	Oleander.	G. Single red
	var. flore pleno.	G. Double red
	divaricatum.	G. Double-flowered
	americanum.	G. Carolina Olive, or
		} Rose Bay.
NYCTANTHES.	<i>Diandria Monogyn.</i>	Gen. 16. Sp. 8.
	Sambac.	S. Single Arabian
	var. flore pleno. ^c	S. Double ditto
	fol. variegatis.	S. Striped ditto
		} Jasmine.
OLEA.	<i>Diandria Monogyn.</i>	Gen. 20. Sp. 11.
	americana.	G. American
	odoratissima.	G. Sweet-scented [European]
	europæa latifol.	G. Common broad-leaved, or
	var. angustifolia.	G. Narrow-leaved
	var. buxifolia.	G. Box-leaved
	capensis.	G. Cape
		} Olive-tree.
ONONIS.	<i>Diadelph. Decand.</i>	Gen. 863. Sp. 1006.
	Natrix.	G. Viscous
	rotundifolia.	G. Round-leaved
	crispa.	G. Curled
		} Rest Harrow.
OPHIOXYLUM. ^d	<i>Polygam. Monœcia.</i>	Gen. 1142. Sp. 1478.
	serpentinum. ^e	S. Snake-like
		} Ophioxylum.
ORIGANUM.	<i>Didynam. Gymnosf.</i>	Gen. 726. Sp. 822.
	ægyptiacum.	S. Egyptian
	Dictamnus.	Dittany of Crete
	sipyleum.	Dittany of Mount Sipylus
	Majorana.	Sweet Marjoram
		} Marjoram.

^a Hweong, M.^b Sidarraja, M.^c Or Goa Jasmine, with a very large double flower, of an exquisite scent. In the Malabar tongue it is called *Katu*, or *Kudda Mulla*; in Malay, *Malati*; in Sumatra corrupted to *Melloor*, or *Melattee*.^d Boa-ati, M.^e Or *Lignum Colubrinum*. In Ceylon it is called *Rametul*, or *Cametul*; in the island of Rothe, and ofTimor, it is called *Caju Naffi*; in Siam, Malacca, and Sumatra, *Caju Ular*. It is the *Kudda Mulla* of the Hortus Malabaricus. *Jasminum Indicum Mali Aurantiæ foliis, flore albo, pleno amplissimo*. This beautiful double-flowering Indian Jasmine was brought from Goa, in 1690, to the Grand Duke of Tuscany, who would not suffer cuttings or layers of it to be given to any body. The root of this plant is said to be a powerful vermifuge.

GENUS.	SPECIES, &c.	ENGLISH NAMES.
ORNITHOGALUM.	<i>Hexand. Monog.</i> Gen. 418. Sp. 439.	
	latifolium. G. Broad-leaved	} Star of Bethlehem.
	arabicum. G. Arabian	
	luteum. G. Yellow	
OSTEOSPERMUM.	<i>Syngen. Polyg. necessaria.</i> Gen. 992. Sp. 1308.	
	pififerum. G. Pea-shaped	} African Chrysanthemum.
	spinosum. G. Spinous	
	moniliferum. G. Poplar-leaved	
	rigidum. G. Rigid	
OTHONNA.	<i>Syngen. Polyg. necessaria.</i> Gen. 993. Sp. 1309.	
	bulbosa. G. Bulbous	} Ragwort.
	gibbosa. G. Gibbous	
	cheirifolia. G. Spear-leaved	
	parviflora. G. African	
	pectinata. G. Comb-leaved	
OXALIS. ^a	<i>Decand. Pentagyn.</i> Gen. 582. Sp. 620.	
	purpurea. S. Purple	} Wood Sorrel.
	flava. S. Yellow	
	Pes capræ. S. Umbelliferous	
PANCRATIUM. ^b	<i>Hexand. Monogyn.</i> Gen. 404. Sp. 417.	
	carolinianum. G. Carolina	} Narcissus.
	zeylanicum. S. Zeylon	
	mexicanum. S. Mexican	
	Calpense. S. Gibraltar	
	africanum. S. African	
	caribæum. S. Caribbee	
	amboinense. S. Broad-leaved	
PASSERINA.	<i>Oftand. Monogyn.</i> Gen. 489. Sp. 513.	
	filiformis. G. African	Sparrow Wort.
PASSIFLORA.	<i>Gynand. Pentand.</i> Gen. 1021. Sp. 1355.	
	incarnata. G. Three-leaved	} Passion Flower.
	rotundifolia. G. Round-leaved	
	jamaicensis. S. Jamaican	
	laurifolia. S. Laurel-leaved	
	punctata. S. Spotted-leaved	
	Murucuja. S. Moon-shaped-leaved	
	suberosa. S. Cork-barked	
	minima. S. Small-leaved	
	normalis. S. Squared	
PATAGONULA.	<i>Pentand. Monogyn.</i> Gen. 208. Sp. 212.	
	americana. S. American	Patagonula.
PAULINIA. ^c	<i>Oftand. Trigynia.</i> Gen. 497. Sp. 524.	
	aurea. G. Yellow-flowered	} Paullinia.
	barbadensis. S. Barbadoes	
	Cururu. S. Eastern	

^a Daun-idop, M.^b Liat-Saare, M.^c Cururu, M.

GENUS.	SPECIES, &c.	ENGLISH NAMES.
PENTAPETES. ^a	<i>Monodelph. Dodecand.</i>	Gen. 834. Sp. 958.
	phœnicea.	S. Indian Vervain
PERIPLOCA.	<i>Pentand. Digynia.</i>	Gen. 303. Sp. 309.
	africana.	G. African climbing
	græca.	G. Grecian
PETIVERIA.	<i>Hexand. Tetragyn.</i>	Gen. 459. Sp. 468.
	alliacea.	S. Guinea
	octandra.	S. American
PHILADELPHUS.	<i>Icosand. Monogyn.</i>	Gen. 614. Sp. 671.
	aromaticus.	G. Broad-leaved
	rubicaulis.	G. Shining-leaved
PHOENIX.	<i>Diœcia Triandria.</i>	Gen. 1224. Sp. 1659.
	dactylifera.	S. Date
PHLOMIS.	<i>Didynam. Gymnosf.</i>	Gen. 723. Sp. 818.
	purpurea.	G. Purple
	Leonurus.	G. Lion's-tail
PHYLICA.	<i>Pentand. Monogyn.</i>	Gen. 266. Sp. 283.
	ericoides.	G. Heath-leaved
	buxifolia.	G. Box-leaved
PHYLANTHUS. ^b	<i>Monœcia Triand.</i>	Gen. 1050. Sp. 1392.
	Emblica. ^c	S. Pinnated
	grandiflora.	S. Large-flowering
PHYLLIS.	<i>Pentand. Digynia.</i>	Gen. 323. Sp. 335.
	nobla.	G. Simpla Nobla of the Canaries.
PHYSALIS. ^d	<i>Pentand. Monogyn.</i>	Gen. 250. Sp. 261. 1670.
	flexuosa.	G. Flexuose Indian
	viscosa.	S. Viscous
	curassavica.	S. Curassao
	peruviana.	S. Peruvian
PHYTOLACCA.	<i>Decand. Decagynia.</i>	Gen. 588. Sp. 631.
	dioica.	S. Tree-like American
PIPER.	<i>Diand. Trigynia.</i>	Gen. 43. Sp. 40.
	Amalago.	S. Jamaica long
	obtusifolium.	S. Obtuse-leaved
	verticillatum.	S. Whirled
PISCIDIA.	<i>Diadelph. Decand.</i>	Gen. 856. Sp. 993.
	Erythrina.	S. Oval-leaved
PISONIA.	<i>Polygam. Diœcia.</i>	Gen. 1162. Sp. 1511.
	aculeata.	S. Prickly
PISTACIA.	<i>Diœcia Pentand.</i>	Gen. 1108. Sp.
	vera.	G. True
	trifolia.	G. Three-leaved
	Lentiscus. ^e	G. Mastick-leaved

^a *Conga-haram*, M.

^b *Daun-jinta*, M.

^c In the Malabar, *Nelli-camaram*.

^d *Peretti*, M.

^e Gum Mastick from the Isle of Scio. As this tree, commonly called the *Lentiscus*, is doubted to be the genuine Mastick-tree, seeds of the true kind may be procured from the Isle of Scio.

GENUS.	SPECIES, &c.	ENGLISH NAMES.
PLUMBAGO. ^a	<i>Pentand. Monogyn.</i> zeylanica. scandens.	Gen. 213. Sp. 215. S. Ceylon S. Climbing } Leadwort.
PLUMERIA. ^b	<i>Pentand. Monog.</i> rubra. alba. obtusa.	Gen. 298. Sp. 306. S. Red West Indian S. White ditto S. Obtuse-leaved } Jasmine.
POINCIPIA. ^c	<i>Decand. Monog.</i> pulcherrima. elata.	Gen. 515. Sp. 544. S. Barbadoes S. Tall } Flower Fence.
POLYGALA.	<i>Diadelph. Octand.</i> myrtifolia. spinosa.	Gen. 851. Sp. 986. G. Myrtle-leaved G. Prickly } Milkwort.
POLYPODIUM. ^d	<i>Cryptogam. Filices.</i> aureum. auriculatum. trifoliatum. effusum.	Gen. 1179. Sp. 1542. S. Golden, or Hare's-foot S. Eared S. Three-leaved S. Spreading } Polypody, or Fern.
PORTULACA. ^e	<i>Dodecand. Monogyn.</i> Anacampseros.	Gen. 603. Sp. 638. S. Shrubby } Purslane.
PRASIMUM.	<i>Didynam. Gymnosf.</i> majus.	Gen. 737. Sp. 838. G. Shrubby } Hedge Nettle.
PROTEA.	<i>Tetrand. Monogyn.</i> argentea. pallens. conifera. glauca. faligna.	Gen. 111. Sp. 137. G. Broad-leaved, or Cape G. Pale G. Upright narrow-leaved G. Smooth G. Oblique spear-shaped } Silver-tree, or Protea.
PSIDIUM. ^f	<i>Icosand. Monogyn.</i> pyriferum. pomiferum. montanum. vittata.	Gen. 615. Sp. 672. S. Pear-shaped S. Apple-shaped S. Mountain S. Filleted } Guava.
PSORALEA.	<i>Diadelph. Decand.</i> pinnata. aculeata. bituminosa. bracteata.	Gen. 894. Sp. 1074. S. Pinnated-leaved S. Prickly-leaved S. Bituminous S. Floral-leaved } Jupiter's Beard, or Trefoil.
PTEROCARPUS. ^g	<i>Diadelph. Decandria.</i> polygonoides. aphyllus.	Gen. 854. Sp. 1662. S. Knot-grass S. Leafless } Pterocarpus.

^a Akar-binaffi, M.^b Sambodja, M.^c Bonga-merak, M.^d Simbor, M.^e Gelang, M.^f Gujave, M.^g This grows to a very large tree, and produces that most beautiful and useful wood, for cabinets, doors, &c. called *Amboina-wood*. In the Malay it is called *Lingoum*, or more frequently *Lingoa*.

GENUS.	SPECIES, &c.	ENGLISH NAMES.
PTERONIA.	<i>Syngen. Polygam. Æqualis.</i> Gen. 937. Sp. 1176.	
	camphorata. G. <i>Camphor-leaved</i>	} Pteronia.
	oppositifolia. G. <i>Opposite-leaved</i>	
	lavendulifolia. G. <i>Lavender-leaved</i>	
PUNICA.	<i>Icosand. Monogyn.</i> Gen. 618. Sp. 676.	
	nana. G. <i>Dwarf</i>	Pomegranate.
RANDIA.	<i>Pentand. Monogyn.</i> Gen. 211. Sp. 213.	
	mitis. S. <i>Mild, or round-leaved</i>	} Box-thorn.
	aculeata. S. <i>Prickly</i>	
RANUNCULUS.	<i>Polyand. Polygynia.</i> Gen. 699. Sp. 772.	
	alpestris. G. <i>Alpine</i>	} Crowfoot.
	aconitifolius. G. <i>Monk's-hood</i>	
RAUVOLFIA.	<i>Pentand. Monogyn.</i> Gen. 293. Sp. 303.	
	nitida. S. <i>Four-leaved smooth</i>	Rauvolfia.
RHODODENDRON.	Sp. 562.	
	maximum. G. <i>Large</i>	} Rhododen- dron.
	ferrugineum. G. <i>Ferruginous</i>	
	ponticum. G. <i>Pontic</i>	
	hirsutum. G. <i>Hairy</i>	
RHUS.	<i>Pentand. Trigynia.</i> Gen. 369. Sp. 379. 1672.	
	tomentosum. G. <i>Hairy-leaved</i>	} Sumach.
	angustifolium. G. <i>Narrow-leaved</i>	
	Cobbe. G. <i>Ceylon</i>	
	lucidum. G. <i>Shining-leaved</i>	
	var. minor. G. <i>Lesser ditto</i>	
	lævigatum. G. <i>Smooth-leaved</i>	
	odoratum. G. <i>Sweet-smelling</i>	
	Copallinum. G. <i>Copal</i>	
	succedaneum. G. <i>Succedaneous</i>	
RIVINIA.	<i>Tetrand. Monogyn.</i> Gen. 162. Sp. 177. 1679.	
	humilis. S. <i>Dwarf</i>	Rivinia.
RONDELETIA. ^a	<i>Pentand. Monogyn.</i> Gen. 224. Sp. 243. 1671.	
	americana. S. <i>Tinus-leaved, or American</i>	Rondeletia.
ROSA. ^b	<i>Icosand. Polygynia.</i> Gen. 631. Sp. 703.	
	indica. G. <i>China</i>	Rose.
ROYENA.	<i>Decand. Digynia.</i> Gen. 555. Sp. 568.	
	lucida. G. <i>Shining-leaved</i>	} Royena.
	latifolia. G. <i>Broad-leaved</i>	
	myrtifolia. G. <i>Myrtle-leaved</i>	
RUBIA.	<i>Tetrand. Monogyn.</i> Gen. 127. Sp. 159.	
	peregrina. ^c G. <i>Turkey</i>	Madder.
RUDBECKIA.	<i>Syngen. Polygam. Frust.</i> Gen. 980. Sp. 1279.	
	laciniata. G. <i>Jagged</i>	Rudbeckia.

^a Karak-Nass, M.^b Cambang Marrer, M.^c Supposed to be the same that is now cultivated in Smyrna for a crimson dye.

GENUS.	SPECIES, &c.	ENGLISH NAMES.
RUSCUS.	<i>Diacia Syngenesia.</i> Gen. 1139. Sp. 1474. androgynus. G. True	Alexandrian Laurel.
SACCHARUM.	<i>Triand. Digynia.</i> Gen. 73. Sp. 79. officinale. S. Sugar pumilum. S. Dwarf Sugar	} Cane.
SAGINA.	<i>Tetrand. Tetragynia.</i> Gen. 176. Sp. 185. procumbens. G. Procumbent	Pearlwort.
SALICORNIA.	<i>Monand. Monogyn.</i> Gen. 10. Sp. 5. fruticosa. G. Shrubby jointed	Glasswort.
SALSOLA.	<i>Pentand. Digynia.</i> Gen. 311. Sp. 322. 1678. capensis. G. Cape fruticosa. G. Shrubby	} Glasswort.
SALVIA.	<i>Diandria Monogyn.</i> Gen. 39. Sp. 33. 1675. coccinea. G. Scarlet canariensis. G. Canary paniculata. G. Panicked-flowered africana. G. African nilotica. G. Egyptian aurea. G. Yellow pinnata. G. Feathered mexicana. G. Mexican capensis. G. Cape	} Sage.
SANGUISORBA.	<i>Tetrand. Monog.</i> Gen. 146. Sp. 169. spinosa. G. Spinous dioica. G. Dioicous	} Burnett.
SAPINDUS.	<i>Octand. Trigynia.</i> Gen. 499. Sp. 526. Saponaria. S. Indian americana. S. American	} Soap-berry.
SAXIFRAGA.	<i>Decand. Digynia.</i> Gen. 559. Sp. 570. stolonifera. G. Chinese mutata. G. Silver-edged bryoides. G. Mossy aspera. G. Rough	} Saxifrage.
SCABIOSA.	<i>Tetrand. Monogyn.</i> Gen. 115. Sp. 141. 1677. africana. G. African cretica. G. Cretan rigida. G. Stiff-leaved atropurpurea. G. Purple-flowered	} Scabious.
SCHINUS.	<i>Diacia Decandria.</i> Gen. 1130. Sp. 1467. molle. G. Soft	Mastick-tree.
SCILLA.	<i>Hexand. Monogyn.</i> Gen. 419. Sp. 442. autumnalis. G. Autumnal peruviana. G. Peruvian	} Squill.
SCROPHULARIA.	<i>Didynam. Angiosp.</i> Gen. 756. Sp. 863. lucida. G. Shining-leaved	Figwort.

* Toboe, M.

b Rarax, M.

canina.

GENUS.	SPECIES, &c.	ENGLISH NAMES.
SCROPHULARIA.	canina: G.	Dogs-rue
	frutescens. G.	Shrubby
	aquatica. G.	Aquatic
SEDUM.	<i>Decandria Pentagyn.</i> Gen. 579. Sp. 616. 1673.	
	Cepæa. G.	Purslane-leaved
	rubens. G.	Red
SELAGO.	<i>Didynam. Angiosperm.</i> Gen. 769. Sp. 876.	
	corymbosa. G.	Upright-stalked
SEMPERVIVUM.	<i>Dodecand. Polyand.</i> Gen. 612. Sp. 664.	
	arboreum. G.	Tree-Sedum
	globiferum. G.	Hen and Chicken
	canariense. G.	Canary
	arachnoideum. G.	Cobweb
SENECIO. ^a	<i>Syngen. Polygam. superf.</i> Gen. 953. Sp. 1215.	
	Pseudo-China. S.	Yellow China-root
	pectinatus. G.	Pectinated
	Doria. G.	Sea Lavender
	elegans. G.	Elegant
	Rigidus. G.	Rigid
	Coronopifolius. G.	Buck's-horn Plantain
SIDA. ^b	<i>Monadelph. Polyandria.</i> Gen. 837. Sp. 960.	
	cordifolia. S.	Heart-shaped
	rhombifolia. S.	Rhomboid
	Abutilon. S.	Heart-shaped undivided
	multiflora. S.	Many-flowered
SIDERITIS.	<i>Didynam. Gymnosperm.</i> Gen. 712. Sp. 801.	
	syriaca. G.	Syrian
	canariensis. G.	Canary
SIDEROXYLUM. ^c	<i>Pentand. Monog.</i> Gen. 264. Sp. 278.	
	inermis. S.	Æthiopian
	tenax. G.	Carolina
	lycioides. G.	Prickly, or Canada
	oppositifolia. G.	Opposite-leaved
SILENE.	<i>Decand. Trigynia.</i> Gen. 567. Sp. 594. 1673.	
	fruticosa. G.	Myrtle-leaved
	acaulis. G.	Moss
	vallesia. G.	Vallesian
	capensis. G.	Cape
SISYRINCHIUM.	<i>Gynand. Triand.</i> Gen. 1017. Sp. 1353.	
	bermudianum. G.	Greater
	graminifolium. G.	Grass-leaved
	capensis. G.	Cape
	palmifolium. G.	Palmated
SKINNERA.	Capensis. G.	Cape
		Skinnera.

^a Saijor-bali, M.

^b Silaguri-panjang, M.

^c Caco-molli, M.

GENUS.	SPECIES, &c.	ENGLISH NAMES.	
SMILAX. ^a	<i>Diacia Hexandria.</i>	Gen. 1120. Sp. 1458.	
	aspera.	G. Rough	} Bindweed.
	excelsa.	G. Eastern	
	floridensis.	G. Florida	
	Sarsaparilla. ^b	G. Sarsaparilla	
SOLANUM. ^c	<i>Pentand. Monogyn.</i>	Gen. 251. Sp. 263.	} Nightshade.
	quercifolium.	G. Oak-leaved	
	guinense.	S. Guinea	
	papilionaceum.	S. Papilionaceous	
	acanthifolium.	S. Acanthus-leaved	
	bonariense.	S. Tree	
	mammosum.	S. Pear-fruited	
	radicans.	S. Creeping	
	indicum.	S. Indian	
	sodomeum.	S. Apple-bearing	
	verbascofolium.	S. Verbascum-leaved	
	tomentosum.	S. Downy-leaved	
	igneum.	S. Red-spined	
SOLDANELLA.	<i>Pentand. Monogyn.</i>	Gen. 199. Sp. 206.	} Soldanella.
	alpina.	G. Alpine	
SOPHORA. ^d	<i>Decandria Monogyn.</i>	Gen. 508. Sp. 533.	} Colutea.
	tomentosa.	S. Zeylon silver	
	lupinoides.	S. Lupine	
	alba.	S. White-flowered	
	biflora.	S. Double-flowered	
	capensis.	S. Cape	
	angulata.	S. Angular-leaved	
	microphylla.	Small-leaved	
SPARTIUM.	<i>Diadelph. Decand.</i>	Gen. 858. Sp. 995.	} Broom.
	spinosum.	G. Prickly	
	sphærocarpum.	G. Round-fruited	
	complicatum.	G. Montpelier	
	radiatum.	G. Starry	
SPONDIAS.	<i>Decand. Pentagyn.</i>	Gen. 577. Sp. 612.	} American Plumb.
	Myrobalanus.	S. Black	
STACHYS.	<i>Didynam. Gymnosperm.</i>	Gen. 719. Sp. 811. 1674.	} Bane- Horehound.
	tomentosa.	G. Downy-leaved	
	hirta.	G. Hairy-leaved	
	æthiopica.	G. Ethiopian	
	capensis.	G. Cape	
STAPELIA.	<i>Pentand. Digyn.</i>	Gen. 307. Sp. 346.	} Stapelia.
	hirsuta.	S. Greater	
	variegata.	S. Lesser	
	mammillaris.	S. Warty	

^a *Cajo-Tjina-utan*, M.^b It is brought from the Bay of Campeachy, and the Gulf of Honduras, where it grows in plenty,

and might easily be propagated in Florida. ELLIS, p. 29.

^c *Irong*, M.^d *Upas-bidji*, M.

GENUS.	SPECIES, &c.	ENGLISH NAMES.
STATICE.	<i>Pentand. Pentagyn.</i> monopetala. suffruticosa.	Gen. 388. Sp. 394. G. <i>Narrow-leaved</i> G. <i>Shrubby</i>
STRUTHIOLA.	virgata. erecta.	G. <i>Spear-shaped-leaved</i> G. <i>Erect</i>
STYRAX.	<i>Dodecand. Monogyn.</i> lævigatum. grandifolium. officinale. ^a	Gen. 595. Sp. 635. G. <i>Smooth-leaved</i> G. <i>Large-leaved</i> G. <i>Medicinal</i>
SWIETENIA.	<i>Decand. Monogyn.</i> Mahagoni.	Gen. 521. Sp. 548. S. <i>American</i>
TAMARINDUS.	<i>Triand. Monogyn.</i> indicus. ^b	Gen. 46. Sp. 48. S. <i>Tamarind-tree.</i>
TARCHONANTHUS.	<i>Syngen. Polygam. Æqualis.</i> camphoratus.	Gen. 940. Sp. 1179. G. <i>African</i>
TAXUS.	<i>Diacia Monadelph.</i> elongata. nucifera.	Gen. 1135. Sp. 1472. G. <i>Broad-leaved</i> G. <i>Nut-bearing</i>
TETRAGONIA.	<i>Icosand. Pentagyn.</i> cornuta. herbacea.	Gen. 627. Sp. 687. G. <i>Horned</i> G. <i>Herbaceous</i>
TEUCRIUM.	<i>Didynam. Gymnosf.</i> fruticans. Marum. Polium. luteum. album. coccineum. creticum.	Gen. 706. Sp. 786. G. <i>Common Spanish</i> G. <i>Syrian</i> G. <i>Shrubby</i> G. <i>Yellow</i> G. <i>White</i> G. <i>Red</i> G. <i>Cretan</i>
THEA.	<i>Polyand. Monogyn.</i> viridis. bohea.	Gen. 668. Sp. 734. G. <i>Green</i> G. <i>Bohea</i>
THEOBROMA.	<i>Polyadelph. Pentand.</i> Cacao. Guazuma. angusta.	Gen. 900. Sp. 1100. S. <i>Chocolate</i> S. <i>Bastard</i> S. <i>China</i>

^a There is a resinous juice, which, by age, hardens into a solid brittle resin, of a pungent, warm, balsamic taste, and very fragrant smell, not unlike the Storax Calamita, heightened with a little Ambergrease, which is produced from the *Styrax Aceris folio*, or *Liquid Amber styraciflua* of Linnæus, Sp. Pl. 1418, which grows in perfection in the Floridas. This, Dr. Lewis, in his *Materia Medica*, p. 353, says, might be applied to valuable medicinal purposes. The French, in Du Pratz's History of Lou-

isiana, speak with rapture of its healing qualities, and the high esteem it is in among the Indians of Florida, on account of its virtues. It is known to the English by the name of the *Sweet Gum-tree*, and to the French by the name of *Copalm*. This we can have genuine, whereas the Storax from the East is often adulterated. ELLIS's Directions for transporting Seeds, p. 24.

^b *Assam*, M. i. e. *acidum*.

THUJA.

GENUS.	SPECIES, &c.	ENGLISH NAMES.
THUJA.	<i>Monæcia Monadelph.</i> Gen. 1078. Sp. 1421.	
	<i>orientalis.</i> G. Oriental	
THYMBRA.	<i>Didynam. Gymnosf.</i> Gen. 708. Sp. 795.	
	<i>spicata.</i> G. Spiked	} Mountain Hyssop.
	<i>verticillata.</i> G. Rough narrow-leaved	
THYMUS.	<i>Didynam. Gymnosf.</i> Gen. 727. Sp. 825.	
	<i>mastichina.</i> G. Mastick	Thyme.
TOURNEFORTIA. ^a	<i>Pentand. Monogyn.</i> Gen. 192. Sp. 201.	
	<i>ferrata.</i> S. Serrated-leaved	} Tournefortia.
	<i>volubilis.</i> S. Twining-stalked	
	<i>Ehretia.</i> S. Ebrets	
	<i>diffusa.</i> S. Spreading	
TRACHELIUM.	<i>Pentand. Monogyn.</i> Gen. 221. Sp. 243.	
	<i>cæruleum.</i> G. Blue	Throat-wort.
TRICHILIA.	<i>Decand. Monogyn.</i> Gen. 528. Sp. 550.	
	<i>glabra.</i> G. Smooth	
TRICHOMANES.	<i>Cryptogam. Filices.</i> Gen. 1181. Sp. 1560.	
	<i>canariensis.</i> G. Portugal	Fern.
TRIOPTERIS.	<i>Decand. Trigynia.</i> Gen. 574. Sp. 612.	
	<i>jamaicensis.</i> G. Jamaica	Triopteris.
TROLLIUS.	<i>Polyand. Polygyn.</i> Gen. 700. Sp. 782.	
	<i>asiaticus.</i> G. Asiatic	Globe-flower.
TROPÆOLUM.	<i>Octand. Monogyn.</i> Gen. 466. Sp. 490.	
	<i>majus fl. pleno.</i> G. Double	Nasturtium.
VERBENA.	<i>Diand. Monogyn.</i> Gen. 32. Sp. 27.	
	<i>bonariensis.</i> G. Tallest spiked	} Vervain.
	<i>indica.</i> G. Indian	
VINCA. ^b	<i>Pentand. Monog.</i> Gen. 295. Sp. 304.	
	<i>rosea.</i> S. Madagascar	} Periwinkle.
	<i>var. alba.</i> S. White-spotted-flowered	
VITEX. ^c	<i>Didynam. Angiosp.</i> Gen. 790. Sp. 890.	
	<i>trifoliata.</i> G. Three-leaved	} Chaste-tree.
	<i>Negundo.</i> G. China, or five-leaved	
VITIS. ^d	<i>Pentand. Monog.</i> Gen. 284. Sp. 293.	
	<i>trifolia.</i> S. Three-leaved	} Wild Vine.
	<i>indica.</i> S. Indian	
VOLKAMERIA. ^e	<i>Didynam. Angiosp.</i> Gen. 788. Sp. 889.	
	<i>inermis.</i> S. Smooth-stalked	} Volkameria.
	<i>aculeata.</i> S. Prickly-stalked	
WACHENDORFIA.		
	<i>thyrsiflora.</i> G. Spear-shaped	Wachendorfia.
WINTERANA.	<i>Dodecand. Monog.</i> Gen. 598. Sp. 636.	
	<i>Canella.</i> S. Bastard Cinnamon	} Winter's Bark.
	<i>aromatica.</i> S. Aromatic	

^a Moral-Cabulu, M.^b Foela-malega, M.^c Penarrar-Jambi, M.^d Daun-Capialon, M.^e Moegri, M.

GENUS.	SPECIES, &c.	ENGLISH NAMES.
XERANTHEMUM.	<i>Syngen. Polygam. superf.</i>	Gen. 947. Sp. 1201.
	retortum.	G. Retorted
	fulgidum.	G. Shining
XYLOPHYLLA.		
	longifolia.	S. Long-leaved
	latifolia.	S. Broad-leaved
YUCCA.	<i>Hexand. Monogyn.</i>	Gen. 429. Sp. 456.
	aloifolia.	G. Aloe-leaved
	draconis.	G. Dragon-leaved
ZAMIA.	<i>Monœcia Enneand.</i>	Gen. 1227. Sp. 1659.
	pumila.	S. Dwarf saw-leaved
	spinosa.	S. Prickly-leaved
	integrifolia.	S. Entire-leaved
ZYGOPHYLLUM.	<i>Decand. Monogyn.</i>	Gen. 530. Sp. 551. 1673.
	sessilifolium.	G. Sessile
	Morgfana.	G. Four-leaved

CORRESPONDENCE.

*L*ARGE is the catalogue of human maladies, and these are not unfrequently as complicated as the machine upon which they act. A physician, therefore, of celebrity, will often have his sagacity exercised, by the application of patients, whom pain, or long continuance of disease, has compelled to seek for relief, where antecedent advice has not been successful: physicians, likewise, from a principle of humanity, are no less disposed to encourage such applications for additional advice, where their own has been baffled. Hence Dr. Fothergill was frequently consulted from various parts of the kingdom, as well as of Europe and America. Applications of this kind were too numerous, with his other labours, to admit of many words in reply; but what he suggested was generally so pointed, or, what is the same thing, so successful, that it may be concluded, were his consultations collected together, much instruction might accrue, at least to young practitioners.

There are symptoms in many diseases, which may for a long time agitate the patient, or elude medical art, and wherein, perhaps, great penetration and long experience may discover some simple yet efficacious remedy, that did not before occur. There are diseases, indeed, rebellious to all medicine: the humane physician, nevertheless, in fond hope of procuring more beneficial aid, may laudably appeal to others of his profession, to clear up his doubts, or to lessen the solicitude of his patients. The known sagacity of Dr. Fothergill, his long and successful practice, and not less his philanthropy, combined to point him out as a consulting physician. From some letters, entrusted to me by gentlemen who are an honour to their acquaintance, I have inserted a few instances of the Doctor's familiar manner of communication. As single cases, they may not appear very important; but, I trust, few practitioners will deem them useless.

CORRESPONDENCE.

DR. Cuming is personally unknown to me; and it was subsequent to the decease of our mutual friend, that our correspondence commenced: it has, however, afforded me so much singular pleasure, that I regret it did not commence sooner. Whether it is that I perceive in the living friend a similitude of the deceased Fothergill, or that this epistolary intercourse has afforded me the most pleasing instruction, I know not; but I confess, without reserve, that I recollect the short period of our correspondence as one of the most happy events of my life.

Letters written in the hurry of constant employment, between familiar friends, are rarely written with grammatical precision; they may, nevertheless, contain too much useful matter to be suppressed; and at the same time exhibit that acute judgment, and quick discernment, of the practitioner, in a point of view which is less striking in elaborate performances, because in them we naturally expect to find judgment and precision united.

Dr. Cuming has communicated to me some letters of Dr. Fothergill's, containing his opinion and advice on the cases of a few patients submitted to him by Dr. Cuming. The letters of Dr. Cuming are lost; having, however, received some detached memorandums hastily written by the Doctor, when he visited his patients, *memoriæ causâ*, from which he was afterwards enabled to compose regular histories of the several cases to be transmitted to his correspondents; I have taken the liberty to insert them in their present form, in order to explain Dr. Fothergill's answers.

" Mrs. D——, aged about twenty-four, of a lax delicate habit, subject about two or three years ago to the fluor albus, and accustomed to have the menses very irregularly, in the month of March last suffered a miscarriage in the third month of her pregnancy; subject at times to a pain in her back, which stretched forwards, not in the direction of the ureters, but towards her

stomach. In the latter end of September last, she bathed in the sea ten or twelve times. About the 20th of October, on catching cold, she felt a pain in the region of the bladder, with a frequent desire of making water. In a day or two, the menses appeared; this pain increased, but did not prevent her going abroad and taking short journies: however, she drank plentifully of mucilaginous liquors, and used an emollient fomentation. When I first visited her, November the 5th, the pain was become more violent; her face flushed, her pulse full and quick, with a considerable heat on her skin; her desire of making water was frequent; she had no stoppage, made it in considerable quantity, but the pain was acute for some time afterwards. I ordered about a pint of blood to be taken off; emollient fomentations to be frequently applied; draughts of spermaceti, oil of almonds, with a few grains of camphor and nitre, &c. to be taken sextis horis, and to drink largely of an apozem ex rad. conf. mag. &c. with gum Arab. Her pain became, on the use of medicines, much more tolerable, and continued daily to abate. As she drank, at this time, very plentifully of these aqueous, lubricating, balsamic liquids, her water was in great quantity, and often quite limpid; but, in general, there was more or less of a purulent-like sediment of small membranulæ floating in the urine. About the 8th of November, an universal efflorescence appeared on her skin, attended with a considerable itching: by keeping in bed, and plentiful perspiration, this went off in about two or three days. From that time she has been gradually gaining ground; the pain has abated, so as not now to be pungent and acute; but, to use her own words, she feels, as it were, a soreness or rawness in the part; this is generally most troublesome about bed-time. The quantity of matter deposited is, upon the whole, less in a given time. The water made first after waking contains most of this purulent-like sediment, for obvious reasons; but, as is usual in such cases, the quantity of the sediment is some days more, some days less; the sediment too is become whiter and lighter, though, in some glasses, it has appeared slightly tinged of a pink colour. I have visited her two or three times since. The medicines have been occasionally varied. After the rash disappeared, she took two gentle doses of rhubarb and manna, which moved her moderately three or four times: and for these three weeks past she has taken the following; with a decoction of pearl barley, gum Arabic, and balsamic syrup, for common drink:

“ R. Spermat. Ceti,

Pulv. e Tragac. comp. ā scrup. i.

Balsam. Gilead. gut. iv.

Syr. Rosar. solut. q. s. fiat Bolus, ter in die sumendus, ex cochlear.

quatuor misturæ sequentis:

“ R. Emulf.

“ R. Emulf. Arabic. unc. vi.
 Olei Amygd. drachm. x.
 Syr. Balsam. unc. i.
 Tinct. Cinnam. drachm. ij. misce.

“ In every other respect, she is in good health; no heat or thirst; her appetite is good, which she does not indulge; she sleeps well, and is in general tolerably chearful; she has had no return of the monthly discharge since she desisted from bathing in the sea. She has likewise, by my advice, drank asses milk twice a day. She eats, at dinner, boiled mutton, chicken, calves feet, puddings, hartshorn jellies; for supper, barley gruel, sago. During the whole time of her illness, she has lain in a recumbent, horizontal posture; as an erect one always increased her pain, till of late.

“ The pain she describes is very different at different times. Particularly, about a fortnight ago, she says, she was seized, two or three times a day, with frequent momentary, acute, darting pains, more pungent than at any time of the disorder: these used to molest her during the interval of making water; and, upon the next discharge of urine, the pains went entirely off, and continued so for some hours.

“ For some days before I saw her, she had a constant teasing pain in her bowels, with, generally, every day, three or four griping loose stools, which were removed by some gentle doses of rhubarb.

“ Her water, at this time, is in general quite pale, though sometimes of an amber colour, and soon deposits a white purulent sediment, with films and streaks of membranes of different sizes. For several days before I saw her, her water had, in a lesser degree, the same appearance, though not made in such large quantity.”

“ DEAR DOCTOR,

“ It was not till this morning that I received Mrs. D——’s case. I have considered it with attention; and though it is drawn up in so clear and distinct a manner, yet I own myself at a loss to determine what the disease really is.

“ That the bladder is the seat of it, is evident; but whether a stone, an affection of the coats of the bladder by its being thickened, or an excoriation, is not quite so clear.

“ I wish the lady would submit to a search. If there is a stone, the indications would be certain; if there is none, our conjectures would be more confined.

“ If

" If this cannot be complied with, we can only have recourse to palliatives for a disease we do not perfectly know; a mortifying situation for the physician and his patient!

" This, therefore, I could wish might be done in the first place; that some able accoucheur, if such you have, might carefully examine the state of the bladder.

" If there is a stone, it will most probably be discovered; if the bladder is small, contracted, and its coats thickened, these also, by a skilful hand, may be known, and the cure directed accordingly. Persons of Mrs. D——'s age, are seldom subjected to ulcers in the bladder: I have never seen an instance of this kind; nor do I apprehend the discharge is *purulent*. Does it not adhere to the glass or pot, and, when poured out, remain till the urine is gone, and then cling to the vessel, as the whites of eggs would do? or else is it merely flocculent? Pus, the produce of an ulcer, will clearly shew itself.

" Till we can be extricated from these uncertainties, will not the following indications be reasonable?

" To mitigate the pain of the part affected, abate acrimony, and strengthen the whole habit.

" Would anodyne clysters be improper? If nothing better than the form (A) occurs, suppose it be administered? If this cannot be complied with, the draught (B) will probably answer the purpose.

" Bristol water, drank on the spot, is often a sovereign remedy for diseases of the bladder; and if there be no just grounds to suppose a stone, winter as it is, I should think this place most proper, and to drink as much of the water as possible. Asses milk, a light nutritive diet, and a moderate use of wine, will not, I imagine, be improper.

" If this step should be judged inconvenient or improper, I cannot at present suggest any thing better than the following formulæ (C). Dr. Cuming will be kind enough to consider these as hints, not directions, for his procedure; and will accordingly vary them as emergencies may require.

" I shall return an answer to another letter I received, as soon as possible; and in the mean time subscribe myself,

" Dr. Cuming's affectionate friend,

" JOHN FOTHERGILL."

(A.)

" ℞. Gelat. Amyl.

Olei Amygd. Dulc. ā unc. ij.

Tinct. Thebaic. gut. xxv. fiat enema horâ somni injiciendum; vel,

(B.) " ℞. Pulv.

(B.)

“ R̄. Pulv. e Succino Comp. scrup. i.
 Aq. Alexit. Simp. drachm. x.
 — Nuc. Moschat.
 Syr. Balsam. ā drachm. i. m. fiat haustus fumendus horā somni, addendo,
 si opus fuerit, Pulv. Rhabarb. gran. viii. vel x.

(C.)

“ R̄. Balsam. Traumat.
 Elix. Paregor. ā gut. xxv.
 Tinct. Cort. Peruvian. Simp. gut. xxx.
 Aq. Puræ, drachm. x. fiat haustus fumendus meridie et vesperī.

“ December 18, 1761.

J. F.”

I am not in possession of Dr. Cuming's minutes, to which the following refers; but this is introduced so much in the manner of recapitulation, that the loss of the former is of less consequence.

“ DEAR DOCTOR,

“ I embrace the first leisure moment I have to communicate what occurs to me, upon a careful consideration of the additional circumstances I have just received in relation to Mrs. D——'s case.

“ I know Dr. Cuming's precision too well, to have the least doubt but he has conveyed to me as much information, perhaps more, than I could have been able to have collected if present. It is owing to the concealed nature of the case, that I could form no clearer idea of it; and not for want of my friend's judgment in collecting, or accuracy in describing, so equivocal a complaint.

“ The search has informed us of two things; that there is most probably no stone, nothing foreign in the bladder itself, and that there is one part that discovers a particular tenderness; and farther, that no obvious thickens of the bladder itself was discovered. These circumstances reduce our conjectures into a less compass; and that either an excoriation of some part of the bladder,

or

or acrimony, or both, are the causes of the present complaints. The search, I think, declares in favour of the first suspicion; and that we may safely conclude, that the complaints proceed from an ulceration, superficial I hope, and therefore I have called it an excoriation; and as such we may safely treat it. All that we can do, in such cases, I imagine, is to remove as many causes as we can of its not healing, by mitigating pain, lessening the activity of the urinous salts perpetually distilling upon the wound, and, by filling the vessels with good blood and juices, enable nature to do what art cannot pretend to, heal the ulceration.

“ I have ventured, with good success, in some similar cases, to give the extract of hemlock, and found it singularly beneficial. It is anodyne; but, in a just dose, it neither affects the head like other anodynes, nor occasions costiveness; of sharp corrosive juices, it often forms good pus; and, under Dr. Cuming's care, cannot possibly do harm; but stands a fair chance, I think, of being beneficial. Eight grains, at bed-time, in a bolus, with a little conserve of roses, may be given with safety, and six, a little before dinner, encreasing the dose to eight in the morning, and ten at night, in three or four days, if it agrees; that is, if it produces ease, abatement of the discharge, and symptoms of returning health. But, if it excites a kind of pushing, uneasy sensation at the bottom of the orbits, a head-ach, or glimmering of the sight, the dose must be lessened; for that dose is too much, that produces these effects; and one may safely proceed in augmenting the dose, till some such symptom is perceived.

“ There is no officinal medicine differs from itself so much, in point of efficacy, as this extract. For I have occasion to believe, that a few days in the age of the plant it is made from, will make the extract stronger or weaker. I know where to have some of tried efficacy, if none is to be met with at Dorchester, and shall send some down, if it is wanted.

“ But in case this method should seem less to be relied on, than those medicines with whose effects we are in general better acquainted, I would propose the plan enclosed, submitting it entirely to my friend's correction and amendment.

“ The diet must be mild and nutritive. Asses milk once a day at least, or twice; Tilbury water, with a little milk, and a very small portion of the best old French brandy, for common drink; light animal food, rather boiled than roasted, and with as little salt as may be. Acids may be used moderately; and a glass of good Cyprus, a little diluted, at meals occasionally. Our object being to keep every thing out of the urine that is in itself acrimonious, and at the same time guarding against its becoming alkalescent; for this reason a liquid diet, on milk especially, will be useful.

“ I am a little doubtful how far injections may assist us. At first view,
they

they may seem to favour our intentions, by conveying immediately, to the part affected, balsamic liquors, capable at once of abating the urinous acrimony, and deterging or defending the excoriations.

“ But when I reflect on the tenderness of the bladder, the difficulty of introducing a fluid, exactly of the same temperature in respect to heat; the necessity of suddenly stretching a membrane we would wish to keep at rest; the liability of washing off the beginning efforts of nature to cicatrize; the possibility of making it a sort of open fistula; these things discourage me. However, if something of this kind should be thought necessary, would any thing be easier than a solution of starch, or a thin mucilage of quince seeds? Nothing styptic or irritating, or what is not of the most lenient quality, can, I think, be used with safety. I should likewise suspect, that as the seat of the disease is very near where the instrument must be introduced, there would be some hazard of protracting the disease by introducing a remedy. These ideas, however, may be vague; and I hazard them the more freely, as they will have no weight with Dr. Cuming, if he sees them trifling.

“ I have endeavoured to form a composition, on the other side, that I could wish might have these effects; to mitigate pain, and to keep the body gently soluble. Should the proportion of rhubarb be found too small, a few grains may be added to the night bolus; if too much, a mixture may be made without rhubarb, of which to form the morning bolus, which may be then encreased to half a drachm.

“ Perhaps thirty drops of the simple tincture of bark, with five or six only of elix. vitriol. and one drop of tinct. thebaic. might be useful at noon, in a glass of warm Bristol water; and again in the evening, if it should not disagree.

“ I am, with great esteem, Dr. Cuming's assured and affectionate friend,

“ J. FOTHERGILL.”

“ R. Elect. e Cassia, unc. i.

Pulv. e Tragac. Comp. drachm. ij.

—— Rhei, drachm. i.

—— e Succin. Comp. sesquidrachmam fiat elect. cujus 3ss. vel ʒij. fum. om. nocte, superbib. cochl. ij. Julep. sequentis:

“ R. Aq. Menth. Simp. unc. ij.

Tinct. Helvet. fescunciam.

Syr. Simp. drachm. ij. misce.

“ R. Elect. supra præsc. ʒi. fiat Bolus fumendus manè, superbibendo coch. ij. Julep. præscripti.

“ December 26, 1761.

J. F.”

C A S E II.

“ Mr. — rises daily with the sun, or before it: every day, when the weather is tolerable, he uses exercise for two, three, or four hours, sometimes on foot, sometimes on horseback, in visiting his friends, inspecting his workmen in the fields, shooting, &c.. He eats moderately of plain food, (his appetite is very good;) drinks three or four glasses of Port wine after dinner and supper, and goes regularly to bed by eleven. Soon after he returned into the country, he made a glass or two of urine, in which there was evidently some blood, some rough sand, and some small particles of gravel, about the size of the head of a small pin; since that time, no palpable sand or gravel. Sometimes, after two or three hours exercise, his water has been strongly tinged and foul; next day, perhaps, after the same exercise, it has been clear, without any sediment, only a cloud towards the bottom; and, at different times, without any assignable cause, has been of the colour of Port wine, diluted by a great quantity of water (though this seldomer of late than usual): sometimes like, and of the colour of, foul small-beer; sometimes of an amber or lemon colour; and sometimes quite limpid. I have seen, at one time, especially, when the water is pale, a very small quantity of white sediment just covering the bottom of the glass; and at other times the sediment is in a greater quantity, and like red coral: sometimes it is like a cloud that has just weight enough to reach the bottom of the glass. Thus much for the appearance of his water, which he makes in greater quantity since he began the use of the lixivium and broth. The pain about the region of the spleen, stretching towards his stomach, and attended with slight momentary dartings from thence towards his back, he still feels at times; as also in his back, stretching upwards as high as the points of his shoulder blades: but neither of them are violent, or interrupt his exercise. His pulse is regular, slow, soft, and below standard; his spirits are tolerably chearful; he sleeps but badly; mentions somewhat of a clamminess in his mouth, though he has no foulness on his tongue; and likewise an awkward, uncomfortable dryness, and want of proper genial warmth, in his hands and feet.

“ He goes regularly to stool once, sometimes twice, every day; can lie equally easy upon either side, and bend his body in every direction, without any degree of pain. He never has any obstruction or difficulty in making water.”

“ DEAR

“ DEAR DOCTOR,

“ To what cause can we ascribe the effects we perceive in our worthy, sensible friend J—, Esq; if not to a stone in the kidney? I wish most cordially to be persuaded that I am mistaken in thinking so. Let us trace its progress.—The urine now and then, without manifest cause, sometimes with such circumstances as seem likely to produce it, appears with such a hue, that we must think it bloody. This must proceed either from a stone bedded in the kidney, in such a manner, as, though it gives little pain, yet has injured the contiguous blood-vessels so, as that, every now and then, either when the tide of the blood runs higher, from internal causes, or from external motion, blood oozes from the wounded vessels, mixes in the urine, and shews itself plainly to the senses: or else, by some other cause, not to me obvious, the like effects ensue. Let us suppose it scorbutic acrimony. Would this confine itself solely to the urinary passages? would it not be discoverable by other effects, deducible from the same origin? yet I see none; nevertheless, I am diffident of my own opinion, when Dr. Cuming is not quite of the same judgment, in a case that he has considered so attentively, and under so many situations that none but himself can judge of so completely.

“ Shall we not have discharged the duty of able physicians, if we take our indications from the most obvious appearances? *Rationalem quidem puto medicinam esse debere et instrui ab evidentibus causis*, is always uppermost with us both. Nothing more commonly produces such appearances in the urine, than a stone, either in the kidney or in the high road to the bladder. Supposing it a stone, what better dissolvent have we than lime? That preparation of lime, that gives us its solvent properties in the least compass, is the best. No experiments have discovered any thing better, that I know of, than soap-lees: the power of lime is here strongly concentrated. Fraud, avarice, or worse motives, may have raised many medicines of this class into reputation for a time; but *quod simplicius, est melius*, is an axiom of undoubted truth.

“ If these notions correspond with my good friend's, let the lixivium, in any shape, be continued for weeks, nay months, without any limitation, unless some obvious inconvenience arises from it.

“ Dr. Cuming will not be at a loss to know if any such appear, and to direct accordingly.

“ Believe me, affectionately,

“ Thy friend,

“ December 26, 1764.

“ J. FOTHERGILL.”

C A S E III.

“ Miss — is a young lady of twenty-seven years of age, of a sanguine constitution, plump habit; and of a chearful, lively disposition. She enjoyed an uninterrupted state of health till the year 1734, when she was seized with a pleuretic fever, from which she recovered; but, for several years, was subject to acute pains in the side first affected; which were always removed by bleeding. During this time she suffered a very broken state of health.—About the middle of the year 1739 I first visited her, when I found her labouring under many of the symptoms of a beginning phthisis, from an obstruction of the menses: When the most threatening symptoms were removed, a fluor albus appeared: that too was cured; but still her monthly courses did not return, either at the proper periods, or in due quantity. A violent hemicrania next seized her (to which she had before been subject in a lesser degree), which withstood the united force of the most efficacious medicines that I know for that distemper, for almost a twelvemonth: at length it yielded. It were endless to tell you the efforts I made to remove this obstinate, this stubborn distemper, or to describe to you the pain and misery she endured. What expedient did I leave untried, what method unattempted? At last I succeeded. After her recovery, a course of the Bath waters reinstated her, and confirmed her former health. Thus she continued, free from any complaint, (her menstrual evacuations returning regularly) till about the month of April last, that my advice was asked on account of a great discharge of blood by stool, unattended by any pain, which she had three or four times before laboured under. The quantity was excessive. I ordered ten ounces of blood to be taken from her arm, and prescribed a few gently astringent draughts, with a soft balsamic diet; and rest. After taking two of her draughts, the discharge became extremely moderate. I ordered, from time to time, some gentle opening medicines, to prevent her being costive: Thus she continued for some weeks, sometimes voiding blood in small quantities, without pain; but soon felt an uneasiness and pain upon, or soon after, going to stool. As I imagined the case to be a varicous vein broke a little way up the rectum, I ordered some anodyne and gently astringent injections, with doffils, dipped in an ointment of the same nature, to be thrust up the anus; and prescribed the *Æthiops mineral*, with the testaceous powders; taking care that she should not be costive. Thus she continued pretty easy: but, about the middle of June, she observed some small miliary pimples, at first in the arms, then over all her body, attended with a great itching. As the complaint in her bowels was now easy, I purged her; ordered the *Æthiops min.*

min. to be continued; afterwards the pilulæ Æthiop. of the Edinburgh dispensary; and, last of all, a course of Plummer's pills, with a decoction of the woods. To this the eruption seemed to give way; the pimples were fewer in number, and the itching less. About the beginning of August, she returned from a visit to the country, when the pains in her bowels were become much more violent than ever, and beyond her patience. I ordered eight ounces of blood to be taken off; the former injections, with some drops of laudanum, to be repeated pro re nata; with a decoction of consolida maj. &c. for ordinary drink. Small streaks of blood would now and then appear in her stools; but nothing of pus, upon the strictest enquiry. For some time before, I had perceived a small cartilaginous excrescence on the right side, and close to the sphincter ani, from which she seemed to think her pain solely proceeded; and, upon pressing upon the root of this, her pain was greatly aggravated. A spoonful or two of common digestive, mixed with ol. rosar. was frequently thrown up the anus, and digestive alone applied to this excrescence. The pimples now appeared in greater number, and the itching increased. In a few days, when she could bear it, she took a few grains of calomel, which was purged off next morning; this was repeated, and Plummer's pills brought again upon the stage. I ordered a lixivium of salt of tartar to wash with, and made the experiment of an ointment with white precipitate, upon her arms and hands, in Boerhaave's proportion; one ounce, to one and a half of pomatum. But these failing, she was at length cured of this troublesome complaint, by anointing her body with a sulphur ointment, which till now she would not hear of. This eruption had not the appearance of a genuine itch, nor was it at all infectious; for the family did not avoid the most familiar intercourse with her, and more than one of them slept with her for several weeks. Thus I had brought matters, till towards the end of October, 1764; when the pains about her fundament returning, and she positively asserting, that they proceeded, as far as she could judge, from that excrescence before mentioned, various methods were used to soften and discuss it. But, though they gave her a truce from pain for several days together, and she imagined it was thereby become less and softer, yet her pains returned so violently, about the middle of last month, beyond any thing she had ever suffered, that it was cut off. Her pain was exquisite for about two hours after this operation; but, after that, she enjoyed much ease. However, as I was sensible there still remained another cause of her pain (whatever share the excrescence might have had in it) I ordered her an electuary, composed of bals. Lucatel. fl. sulph. sperm. ceti, amyg. &c. with a decoction of the symphit. eryngo, fem. papav. alb. &c.; and a spoonful, morning and evening, of a solution of the bals. capivi. Upon taking these medicines, she continued tolerably easy for eight or ten days; and when her
pain

pain returned, an injection of starch size, with a little ol. lini, and twenty drops of laudanum, was thrown up. But, after having talked so much of these pains, you may expect that I should give you a more particular description of them.

“ The seat of them seems to be about the verge of the anus, on the right side, stretching a little upwards upon the os sacrum, and downwards along her thigh, and sometimes across on the same side. They give her no uneasiness when going to stool, nor till an hour or two afterwards; and I have known them continue upon her for several hours, nay, a whole night, without half an hour's intermission. Her pulse (which is surprizing, considering the violence of them, as they are excessively acute, and have sometimes almost deprived her of her senses) is not sensibly raised by them; and while they are upon her, she labours under a great difficulty of making water; which may easily be accounted for, from the proximity of the parts concerned. She goes regularly to stool; and, when free from these pains, is chearful, and, in every other respect, in good health. I ought, indeed, to have told you, that, though she is regular as to the time, her menses have been in very small quantities these three months; and, likewise, that, within these three weeks, a small quantity of pus has been discovered in her stools.”

“ DEAR DOCTOR,

“ If I have appeared to be remiss in answering the case I received a few posts ago, it has been for a reason, that ought, above all others, to plead my excuse: it was solely to have leisure to reflect upon every part of that obstinate disorder, which affords a more doubtful prognostic, as it has not wholly yielded to such judicious methods as have already been tried.

“ The young lady's misfortunes are very justly deduced from that unhappy attack of the pleurisy. The methods necessary to relieve this, and the weakness left in the part affected, occasioned the repeated necessity of contributing to what has since happened. She had scarce time to recover the weakness which frequent bleedings occasioned, before a fresh attack rendered the like measures necessary. The blood, by this means, was still depraved, the habit weakened, and a scorbutic acrimony seems to have become predominant.

“ It is very likely that the young lady, either in her infancy, or as she grew up, had some cutaneous eruptions in some part of her body; or it might only shew itself in branny scales. If nothing of this kind was discoverable in her, I should suspect that her parents had it, or that her mother had very ill health during gestation. These I only mention as strong suspicions, from what

I have observed, in some cases that have occurred to me, not wholly unlike the present disorder.

“ Whilst the young lady enjoyed uninterrupted health, the natural softness, and proper disposition of the juices, would prevent any thing of this kind from appearing; but, when once the strength of the solids was impaired, and the fluids consequently altered from their natural texture, any latent sharpness would discover itself, and act with more force, in proportion to what the constitution had suffered.

“ The violent hemicrania, succeeding the fluor albus, seems to confirm a suspicion of this kind: visciditv alone could not have produced so much pain, without acrimony conjoined. The same cause seems at length to have fixed about the rectum. The irritation was, at first, but sufficient to solicit a larger flow of the blood to those parts than naturally ought to flow thither; the vessels became varicous, and at length burst; the discharges weakened her; the blood lost of its mildness; the acrimony increased, and fixed upon those parts to which the blood now strongly tended, and gave incessant pain.

“ Proper applications checked the bleeding, eased the pain, strengthened her constitution, and the cause was thrown upon the skin, the part to which acrimonious humours are naturally directed. The miliary pustules, I apprehend, were owing to the same cause that had excited her so much pain about the rectum: for these no sooner disappear, than her bowels are again affected, and a fungus, almost carcinomatous, appears. The extirpation of this, and the discharge which attended it, gave her ease in that part, which a fresh crop of pustules on the skin made more durable.

“ From this view, I imagine, it will be easy to account for several appearances that succeeded; and why the disorder has been so extremely obstinate and refractory to the best-concerted measures.

“ I shall therefore proceed to offer my sentiments upon the queries which are so judiciously proposed, in as narrow a compass as possibly I can; which will lead us to what is of the last importance to the young lady, if we are so happy as to succeed in it, the method of cure.

“ 1st. I think the blood discharged is from the hæmorrhoidal veins become varicous; and that there may be a sinous ulcer in the rectum.

“ 2d. I apprehend the pains arise from a particular acrimony in the blood, either derived from her parents, contracted in her infancy, or produced by the necessary debilitation of her habit by repeated bleedings; and that the excrescence was the effect of the same cause, which produced the pains, the bleeding, the pustules, and her present complaints of pain and uneasiness about the rectum and os sacrum. This is, likewise, the best cause I can assign as an answer to query 3d.

“ 4th. It

“ 4th. It appears to me, that the properest method of cure would be, to strengthen her habit in general, and promote the natural secretions :

“ To intermix gentle evacuations, as far as may be done consistently with the first intention :

“ To make an artificial ulcer as near the part affected as we can ; and to attempt, by specifics, to correct the peccant acrimony.

“ It is unnecessary for me to say any thing with respect to diet, exercise, &c. as that is already so prudently adjusted. Garden-stuff, fruits, acids, salt, butter, and cheefe, in any quantity, must be avoided. Water merely tepid, with a toast, would be the best liquid ; and a glass or two of red wine may be allowed. If beer cannot be easily given up, what she drinks ought neither to be new or stale.

“ With respect to medicines, I apprehend those directed in the enclosed may possibly be of some advantage. The mercurial is of the most mild kind, and has sometimes proved very beneficial. The quantity of purgative ingredients may be added or diminished pro re nata : if she has a motion every day, it will be sufficient. An issue, I think, should be made with a caustic on the inside of the thigh, just above the gartering place, capable of holding two or more peas, as soon as possible. If she dreads the caustic greatly, it may be done by the lancet. This, perhaps, will be a very useful drain, and cannot safely be dispensed with.

“ When the season is proper, the use of some chalybeate purging water, I believe, would be of great advantage. Whether you have any such in your neighbourhood, I know not. The Scarborough waters are of this sort, if the distance is not too material an objection.

“ When the eruption appears, as the menses are not in due quantity, a day or two before the expected period, a few grains of pil. Ruf. dissolved by rubbing in aq. rutæ and brionæ. c. may be given, without any danger to the parts at present affected. Pediluvia may then be used, and sitting over a pan, with warm water, and some aromatic herbs infused in it.

“ *R.* Sapon. Venet.

Gum. Ammoniac. ā sesquidrachmam ;

Salis Martis semidrachmam ;

Extract. Gentianæ liquid. q. f. fiat massa in pilulas l. formanda, quarum iij. vel iv. horâ ante prandium sumantur, insuper bibendo coch. iij. infus. seq.

“ *B.* Pulv. Cortic. Peruvian. drachm. vi.

— — — Winterani, drachm. ij.

Aq. Fontan. unc. xij.

— Absinth. Comp. unc. vi. leni calore per triduum digere, tincturam cola.

“ *R.* Hydrarg.

“ R. Hydrarg. pur. drachm. ij.

Gum. Guaiac.

Olei Amygd. Dulc. ā scrup. ij. simul tere ad extinctionem mercurii, adde dein pilul. cocciaē semidrachmam, pulveris glychyrrhizæ q. f. fiat massa in pilulas xxx. formanda, quarum ij. singulis vel alternis noctibus fumantur.

“ R. Aq. Rutæ, fescunciam ;

— Brion. Comp. semidrachmam ;

Pilul. Rufi, gran. vi. vel. viij.

Syr. Croci, drachm. ij. fiat haustus fumendus cubitum itura: tribus circiter diebus ante mensium periodum, et pro re nata, repetendus.

“ December 23, 1764.

J. F.”

With relation to the event of these three cases, Dr. Cuming has informed me, in general, that they all terminated favourably. Mrs. D—— gradually got well, and never had any return of her complaint. Since that time she has borne several children, and is now alive and in good health.

The young lady, labouring under a hemicrania, married some years after, and removed at a distance from Dorchester. Since that time he has seen her occasionally several times, and has been consulted by her, but never heard her complain of the hemicrania. She has been a grandmother for some years past, and now enjoys good health.

The gentleman, too, who had some threatening appearances of the stone, has, since he took the lixivium, been, in general, free from those complaints, and is now, at the age of seventy-three, lusty and strong, subject only, at times, to occasional fits of an hereditary gout.

AN intimate acquaintance had long subsisted between Dr. Fothergill and Dr. Percival. A friendship of ingenious minds is ever productive of public benefit ; for what is the object of philosophy, but the interest of the community ? This was their mutual pursuit. Many are the letters written by the deceased, which the unreserved politeness of Dr. Percival has entrusted to me, and I have availed myself of some of them, in the annexed Life ; but I am concerned to add, that the multitude of Dr. Percival's engagements have prevented him from preserving copies of the cases of the patients communicated by him to Dr.

Fothergill for his opinion, which would otherwise have rendered their correspondence invaluable, in a medical point of view. I have, however, collected the following detached observations, as not immediately requiring previous elucidation.

Extract of a Letter from Dr. Fothergill to Dr. Percival, Anno 1767.

“ DEAR DOCTOR,

“ I have repeatedly perused the case I received by the last post, and with attention and pleasure: with pleasure, because of its accuracy and precision; and likewise that it seems capable of being relieved.

“ I think the whole train of symptoms proceed from a natural delicacy of constitution, and have been increased by the patient's having been a mother so early, and perhaps by inattention to her diet and regimen. There are few chronic diseases but what are augmented by these means, or that speedily yield to medicine, without the strictest regard to regimen. If I have succeeded in some cases, where others have sometimes failed, it has oftener been owing to enjoining this, than to a happier choice of medicines; and here we have need of every auxiliary.

“ These painful paroxysms are doubtless owing immediately to spasmodic affections of the parts concerned, brought on probably by acrimony arising from indigestion. Pain, languor, immoderate and irregular evacuations, are the consequences, and will continue, under one shape or another, till the stomach, digestion, and its consequences, produce better blood, more strength, and less irritability.

“ Her diet must be of the lightest animal kind, and the quantity precisely such as to occasion no uneasiness after eating: whatever does this, be it kind or quantity, must be studiously avoided. Tea ought to be abandoned altogether: a little milk, in any shape, thin chocolate, or light broth, would be much preferable to tea and bread and butter. Her dinners must be sparing; and a little light animal food may be allowed for supper, and will agree better than most spoon-meats. Spa water, with one third of white Port, Lisbon, or Madeira wine; or common water, with the like proportion of red Port, afterwards. Vegetables of all kinds, and every thing made from them, must be used sparingly, even bread itself. Sweets and acids must be proscribed.

“ The medicines, if they seem not improper, nor on experience are found to disagree, should be long and regularly continued. *Gutta cavat lapidem* ought sometimes to be our motto.

“ Accept

“ Accept my best wishes for thy health and happiness. Acquaint me with the result of these hints, which are submitted entirely to thy corrections; and believe me to be, with great respect,

“ Thy assured friend,

“ JOHN FOTHERGILL.”

“ R. Conserv. e Cort. Aurant. ℥i.

Confect. Damocrat. ℥ss.

Spec. Aromat.

Cryst. Tartar.

Pulv. Rhej. a ℥i. Syr. e Cort. Aurant. q. s. electarium; de quo capiat quantitatem nucis avellanæ, vel quantum satis ad alvum semel quotidie solvendum, superbibendo cochlearia duo julepi sequentis:

“ R. Aq. Menth. piper. Simpl. ℥vi.

Tinct. Helvet. ℥iss.

Syr. Simplic. ℥ij. misce.

“ R. Aq. Cinnam. tenuis, ℥i.

Tinct. Amar. ℥i.

— Flor. Mart. gut. vij. fiat haustus fumendus mane et meridie.

“ R. Aquæ Puræ.

Julep. e Camphora, ā ℥iv.

Elixir Paregor. ℥ss. misce; capiat cochlearia duo in languoribus.

“ 28th Nov. 1767.

J. F.”

The plan above adopted, I am informed, gradually and happily restored the patient to pristine health.

Extract of a Letter from Dr. Fothergill to Dr. Percival, Anno 1780.

“ DEAR DOCTOR,

“ I received thy obliging letter this evening; and sit down immediately to reply to it, lest, as sometimes happens to me, new and pressing calls unexpectedly interpose. The patient's disease is but too evident; and the event, I am afraid, more than doubtful. If the habit had been strong enough, to have thrown the gout on the extremities, a dropsy would not so soon have happened. —Attacked by both diseases, the former smothered, the latter increasing, leaves us but a bad prognostic.

“ To support his strength by a generous diet, and to promote the thinner secretions, without weakening the powers of digestion, seem to be the obvious indications. How far the medicines, which I propose to recommend on the other side, may be likely to succeed, I submit to thy better judgment; better it must be, were it only for this reason, the patient is present. His liquor should be generous—old hock and spa water, half and half—cyder and spa water, and the like, according as, from observation, they appear to promote urine: punch made with spa water, old hock, and brandy, rum, or Geneva, is not a disagreeable liquor to many—three parts water, two parts old hock, one of spirit, and a little sugar. His diet should be of light animal food.

“ I much lament the loss of my most steady friend Dr. Pemberton. I greatly regret, that I trusted too much to his own account of himself. I lament that he did not get either thyself, Dr. Dobson, or Dr. Haygarth, or all of you, to see him. His family have suffered an irreparable loss, and so, I think, has the country.

“ Farewel, and believe me,

“ Thy affectionate friend,

“ JOHN FOTHERGILL.”

“ R. Aq. Menth. Pip. Simp. 3x.

Tinct. Amar. 3fs.

Sal. Absinth. gr. viij. fi. haustus sumendus meridie et vesperi.

“ R. Aq. Cinnam. ten. 3x.

Pulv. Diaphor. Doveri, 3fs.

Syr. Balf. 3i. fiat haustus sumendus omni nocte.

“ Si alvus quotidie non descenderit, mane capiat haustum sequentem pro re nata :

“ R. Aq. Menth. Pip. Simp.

Tinct. Senæ, a 3vi.

Elect. e Scammon. 3fs. vel 3i. misce.

“ R. Aq. Puleg. Simp. 3v.

Lact. Ammon.

Olei Amygd. Dulc. a 3fs.

Oxym. Scillit. 3fs.

Gum. Arabic.

Elixir Paregor. a 3fs. misce, capiat cochlearia duo urgente dyspnœa.

“ 8th Nov. 1780.

J. F.”

This case, as was reasonable to expect, proved rebellious to every endeavour. But I cannot dismiss this Paper, without paying a tribute of respect to the memory of Dr. Pemberton, whom I knew early in my life; if any tribute can be more respectful than saying, he was the friend of Dr. Fothergill. He resided at Warrington, in Lancashire, where he acquired extensive medical reputation: he possessed a frankness in his behaviour, and a tenderness towards the sick, that gained him the love, as his skill did the esteem, of his patients. Dr. Fothergill, and his relations, particularly, who resided in the neighbourhood of Warrington, lived in habits of friendship and intimacy with this worthy physician; and those of them who survived him must deeply regret the loss of so valuable a friend and medical companion.

MANY years before I enjoyed Dr. Falconer's personal acquaintance, I had the pleasure of his correspondence, which I commenced at the express desire of Dr. Fothergill, who then informed me of the satisfaction it had afforded him. Had the Public not known this, the reputation of a writer, that will survive ages to come, stands in no need of contemporary eulogy.

I am sorry that Dr. Falconer had not preserved the cases, to which the following communications refer; but every monumental fragment of a great artist will acquire admirers.

The following Extract of a Letter to Dr. Falconer will afford an instance of Dr. Fothergill's precision and quick discernment, to such as consider his own apology: "I am conscious of great merit," he familiarly observes, "in writing this long letter, however jejune: I have not slept these twenty hours, and have been in action most of the time."

"I have perused, with attention and pleasure, thy attempt to solve the difficulties in Dr. Heberden's and Dr. Percival's experiments, respecting the proportion of rain in different heights from the earth.

"But, to be more certain of the data, it would be right to fix the measure to the top of a high pole, instead of a building; or at least to suspend it at such a distance from any building, as to render any reverberation ineffectual.

"Suppose we add the chemical and electrical doctrines, some sentiments deducible from the ascent of vapours, and the descent of bodies. Vapours are perpetually ascending from the surface of the ground: the nearer they are
to

to the surface, the more dense; the higher, the more rare. Thus, by a chemical decomposition of air, it affords the more water, the nearer it approaches to the surface. The increasing velocity of falling bodies, I think, is the principal cause of this difference; though it receives addition from all the other causes. The guttula of rain, that is scarcely perceptible at 400 yards from the surface, by attracting the moisture of the atmosphere through which it falls, and which atmosphere is the wettest near the ground, grows larger at 300, still larger at 200, and much more so at 100.

“ Thus not only velocity, but magnitude, are increased. For, as the descent of the smallest drop of moisture possible to be conceived, brings in contact a fresh surface of fresh moist air, from whence it borrows something; so every the smallest addition not only accelerates its motion downwards, but enables it to lick up fresh moisture in every inch of its descent.”

Some time after the powder of the male fern was recommended as a specific against the Tænia, or Tape-worm, I asked the opinion of Dr. Fothergill on the subject; who informed me, that he considered tin filings as a much more efficacious remedy: and, in a letter to Dr. Falconer, he observes, “ I have put down, in the prescription, *Limatura Stanni*; please to direct that it be the filings, not the powder. I have two reasons for it:—In the first place, I think tin destroys worms mechanically; that is, by the points of the filings gradually dislodging the heads of the Tænia, or other worms, from their nests. The powder is robbed of this property entirely.

“ In the next place, it is not improbable, at least impossible, but the zinc contained in the tin, or annexed to it, may be a powerful anthelmintic; and this must inevitably be destroyed, by the repeated fusions of the metal, in reducing it to powder. A person of my acquaintance, to whom I had prescribed with success the filings of tin, discharged a Tænia fourteen feet in length. He washed it clean, and put it into a bottle of spirits of wine, lowered to proof. The spirits acquired presently a most beautiful amethyst colour; I think not merely from the sanguineous juices of the animal, but from the effects of zinc.—This, however, is matter of conjecture; the former is a fact.”

THE ingenious Dr. Dobson, of Bath, is only known to me, as he is known in the republic of letters; and this is such as will gain the following obliging communications the regard of the Public; and they command, as they justly merit, the thanks of the Editor.

To Dr. LETT SOM.

“ DEAR SIR,

“ MANY of the letters which I received from Doctor Fothergill, have been mislaid, and I fear are lost. I recollect this with greater regret, as the correspondence of our intelligent friend always conveyed some useful information. From the few letters which remain, I have selected the following practical observations.”

§ 1. *On the flatulent Affections of the Duodenum.*

In a letter which I received from Dr. Fothergill, in the year 1768, he says,

“ I think Hoffman’s treatise *De Morbis Duodeni* one of his best performances : at least I have profited more by it, than by any of his other writings. Painful affections about the stomach, proceed more frequently from a distention of this gut, than from either the stomach or the liver. If one considers the curve it takes behind the liver, and the many important acts necessary to perfect *Chylopoiesis*, which must be performed in this region, we may easily conclude it to be the stage of many excruciating transactions. All the parts connected with it are extremely irritable, and liable to spasmodic constrictions ; every irritating cause, to which the habit is incident, being here united : acrid bile, undigested aliments, and the result of these combinations.

“ In all cases, a true knowledge of the part affected is of the utmost consequence to a cure ; and yet it is not always easy to distinguish between the affections of the *Duodenum*, the affections of the liver, or the symptoms which accompany biliary concretions. In such situations, and where the symptoms are rather equivocal, I always think it right to pursue the general and evident indications, to promote the proper secretions, to give firmness to the solids, and by their assistance produce good blood and good juices.”

§ 2. *On the Uses of the Vapour arising from the Salt-Pans, in Pulmonary Consumptions.*

About ten years ago, I communicated to Dr. Fothergill some experiments and observations on Sea Air ; and, among other conclusions, mentioned the benefit that consumptive patients might derive from breathing an air, which has the peculiar advantage of being of an equal temperature ; and is likewise impregnated with a mild, resolving, and antiseptic vapour, constantly exhaling
from

from the surface of the ocean. Such a situation must have its uses, both in the early stages of Tubercle, and the more advanced ones of Abscess, Rupture, and Ulceration.

The following is an extract from one of the Doctor's letters, which I received soon after this.

"I was in hopes, when I got down into the country, to have thrown together some more remarks on consumptive cases, the use of the bark, elixir of vitriol, Bristol water, and some other usual medicines in this disease; but I am fairly distanced. Whilst we are on this subject, however, permit me to mention an application that I think may be made extremely serviceable in this dire distemper; especially when it attacks people near the middle of life, or later, from ill-cured pleurifies, catarrhs, and the like causes.

"Let the patients go every morning to the Wich-houses, where they are boiling brine into salt; let them advance gradually to the pan-side, not in the hottest place; and let them stay there about a quarter of an hour, more or less, as they can bear it: let them gradually approach the door, to grow cooler; then have an additional garment to put on; clap a handkerchief to their mouths, to keep the atmosphere from feeling too cold; and after they are got home, if their cloaths are damp, either from too free perspiration in the salt-steam, which I could wish might be avoided, or from the steam itself, let them change their cloaths prudently.

"By this means, a penetrating antiseptic vapour is most probably conveyed, with ease and certainty, to the parts affected; capable of resolving recent obstructions, and restraining a tendency to putrefaction.

"Young persons may try it with safety; and I persuade myself that a few experiments will enable one to direct the use of this not inefficacious medicine with propriety. I have ordered it to some persons here, since I came down: we have good conveniencies about us; and I have met with no instances that discourage me from persevering.

The above practice may have its uses; but will be found to be different, in its effects, from the constant, equable, and temperate action of a sea atmosphere.

§ 3. *On the Diabetes.*

Dr. Fothergill desired that the experiments and observations I had made on the urine of diabetic patients, might be inserted in the Medical Inquiries*; and, in his letter, makes some short practical remarks on the disease.

* Vol. v. p. 298.

"I have

“ I have always suspected the Diabetes to arise from impaired digestion, either from mere debility, or from a defect of bile. The obstinate costiveness frequently attending this complaint, seemed to argue this defect; in part, no doubt, the quantity of moisture running off perpetually by the kidneys, would leave the intestinal canal much drier. To strengthen the organs of digestion, the secretory organs likewise, to forward the discharge of bile into the intestines, and to promote perspiration, were generally my objects. Some gentle effectual laxative, some tonic but not heating medicines, were what I chiefly depended on; together with the use of either Bristol or Buxton waters, or lime-water, with a little milk, and lowered with common water, so as to drink it freely for common drink. There is some kind of slight and almost unheeded calcareous stypticity both in the Bristol and Buxton waters, which is carried into the remotest recesses. Bark and elixir of vitriol are valuable medicines, if they prove not too astringent. It is necessary to regard the condition of the hepatic secretion. I suspect the Diabetes often originates from this viscus. Perhaps an inspissated bile, neither flowing into the intestines, nor yet absorbed, as in the jaundice, may be at least one cause of the most quick and pernicious kinds of this disease.”

§ 4. *On Bleeding, in Paralytic and Apoplectic Cases.*

In one of my letters to Dr. Fothergill, I put the following query: What are the circumstances which should determine us to bleed, or not to bleed, when called immediately or soon after a paralytic or apoplectic attack?

In this case, the Doctor very judiciously says, “ Weigh well, whether the strong, slow, bounding pulse, is the effect of vital vigour, renewing efforts for recovery; or it is the remains of that plenitude, which brought on the stroke.— This must determine us.—I believe it happens much more frequently, both in apoplexies and palsies, that the former is the case: and then, so sure as we bleed, we increase the disease: we rob nature of that vigour, which was employed in restoring the circulation, and all the offices depending upon it. Many, many fatal mistakes have I seen in this very point. If bleeding should not be proper, it is mischievous. If it should be warranted, yet neglected, provided other evacuations, which are almost always indicated, are clearly followed, no great harm can ensue.”

The last letter which I received from our very excellent and much lamented friend, appears to have been almost prophetic of his approaching dissolution.— “ I am just advancing to a period, when my attachment to this life ought to grow less strong. I am solicitous, therefore, to get my debts, of various kinds,

discharged, that I may stand ready, as I may be assisted, to attend a call which must be obeyed."—A few months after this, the fatal relapse put a period to his most amiable and valuable life.

I cannot conclude my letter without observing, that Dr. Fothergill was, in the line of his profession, very judicious, very active, and very humane. He had a quick discernment, both in distinguishing diseases, and in adapting the means of cure; so much so, indeed, that he has sometimes been thought to have trifled with the patient, till the event has made it evident, that his practical conclusions were as sound as they were expeditious; and that the patient has recovered, by the use of some easy and simple means, after more complex and apparently more powerful remedies had been administered without effect.

I remain

Dr. Lettsom's most obedient servant,

Bath,
August 16, 1781.

MATTH. DOBSON.

MY amiable and valuable friend, Dr. Anthony Fothergill, has kindly addressed to me the following letter; which contains sufficient information to interest the attention, and acquire the approbation, of the Public.

To Dr. L E T T S O M.

DEAR SIR,

PURSUANT to your request, concerning the correspondence with my late excellent friend Dr. John Fothergill, I have revised his letters, from the year 1764 to the time of his late fatal illness, including a period of about sixteen years. Though there were few sentiments, which dropt from his pen, that would not do credit to their author in print, yet I must beg leave to pass over in silence the major part of his letters, which, being of the confidential kind, were written in haste, on particular occasions, and designed for the eye of friendship only. During the above space that I was favoured with his instructive communications, I generally observed, that he expressed himself with a degree of terseness peculiar to himself; so that I have frequently been at a loss which to admire most, the conciseness and perspicuity of his style, or the justness and energy of his sentiments.

The

The conversation and correspondence of a person possessed of such talents, joined to an infinite fund of knowledge, acquired by experience and a thorough acquaintance with mankind, could not but be highly interesting to one whose curiosity was awake, and whose avidity for treasuring up useful facts was boundless. It is not to be wondered at, then, if I availed myself of the opportunities which he so kindly afforded me, of imbibing instruction from so copious a source, and of learning the result of his observation and experience in a variety of the most obscure and difficult cases.

As the present volume, I presume, is not intended to be confined to medical communications alone, but also to convey such information as may best tend to the illustration of his life and writings, and to select such traits from his familiar correspondence as may throw most light on his general character, I shall submit the following miscellaneous extracts to your consideration. Though medical observations, similar to some of those which follow, may have already appeared in other parts of his writings, yet it may not be unpleasing to the reader, to see them here farther illustrated, or confirmed by collateral circumstances. But, before I enter on these, I must beg leave briefly to mention one instance, out of many that might be produced, of

His unaffected Piety and Benevolence.

He was evidently of a serious and religious turn of mind; and, though free from any tincture of bigotry or superstition, he was not ashamed, like the minute philosophers of the present age, to acknowledge his firm belief in a Supreme Being: and, as he felt himself under the constant influence of that important truth, he endeavoured strongly to impress a just sense of it upon others. In the year 1764, on my first entrance into practice at Northampton, under the sanction of his patronage and recommendation, I met with more difficulties, and had greater opposition to encounter, than we had been taught to expect. In his answer to my representation of the state of affairs, he concludes with the following truly pious and paternal admonitions:

“Depend more on propriety of conduct than any recommendations, though these ought not to be neglected. Have patience, be firm; and I hope every thing will in time succeed. There is a secret superintending Providence that directs every thing for the best. All that we have to do, is to act uprightly, and to the best of our skill, in every thing that offers. It is no small satisfaction to me to hear, that those, who are best able to judge, speak of thee very favourably: and this is to me a mark of thy future success. I am thy assured friend,” &c.*

* December 4, 1764.

In a subsequent letter, he pursues the same kind and affectionate exhortation :

“ I persuade myself that by this time thy prospects begin to brighten up. Forget not, however, that it is on Providence we must depend for a blessing on our diligent, upright endeavours. Difficulties are of use to the prudent: I cannot, however, but wish thee as much success as may be most conducive to thy happiness; and am ever thy assured friend,” &c.*

Permit me here to add, that the event proved conformable to his good wishes; and I think we may venture to conclude, that, in all important undertakings, it will ever be our duty, as well as our interest, duly to observe such excellent admonitions, though they should not always be immediately crowned with the desired success.

I shall now proceed to select some medical observations from his letters; and particularly from a few of the cases in which we were jointly concerned: to the result of which I paid no small degree of attention.

His Opinion of the Hemlock.

In two cases of carcinomatous affections of the Uterus, attended with very distressful circumstances, he says, “ I know not that any thing better can be done for our patients, than to persevere in the use of Hemlock, till it either seems to produce no effect, or disagreeable ones. Perhaps this drug is indebted to Dr. Rutty and myself, for its continuing a little longer in use than it would have done without us. It will not do half of what Dr. Storck says; but I am sure it is an useful medicine in many disorders similar to those before us †.” Accordingly I had the satisfaction to find, that the pain and inquietude were considerably alleviated; and, though the relief was only temporary in the above cancerous cases, it produced a permanent cure in an obstinate painful affection of the face and gums, accompanied with a high degree of irritability, in three female patients, who tried a variety of other medicines in vain. Therefore this remedy, though unequal to the cure of cancers, for which it was perhaps too hastily extolled by Dr. Storck; yet these, and a variety of other authentic facts, clearly prove that it is possessed of *anodyne* and sedative powers, which justly entitle it to our further candid investigation.

Of the Emetic Tartar in the Tussis Convulsiva.

“ I have,” says he, “ long made use of this remedy for the Hooping Cough, with much benefit to my patients; and think, if it is judiciously managed, it will

* December 24th, 1764.

† June 14th, 1767.

generally.

generally prove as successful in the cure of this disease, as the bark in intermittents, if the subject is not too far gone before it is administered *.

“ I would rather wish to be able to cure a trivial disease with certainty, than to be the author of the most specious system in the world. The *citò, tutò, et jucundè*, should always be the physician's motto and his aim †.”

His Zeal for the Public Good, and the Improvement of the Healing Art.

Having been disappointed by the Bark, in some instances of the *Angina Scarlatina*, which prevailed in the year 1770, he says, “ I shall be pleased with seeing thy observations on the putrid sore throat, which still continues to spread in many places. By the observations of numbers, the disease will be better known, and treated with better success. We are preparing another volume of Medical Observations and Inquiries for the press. As I was the first who planned this work, and supported the first secretary at my own expence, till our publications would answer it, I may now claim more merit than I ever expected, not only in having been the occasion of presenting the world with a number of very useful observations in our collection, but in having proved the instrument of exciting the college to an honourable emulation ‡.—I should be glad to see another volume published, before I lay aside the *caestus*. I did nothing last summer; if I am well the next, I hope to contribute something little towards it. One man cannot do a great deal, be his practice ever so extensive. Of the diseases that daily occur, how few are there which furnish matter of real solid instruction? I am sure I wish to let nothing escape me, that can contribute to the usefulness, simplicity, and certainty of medicine §.”

During his short stay at Buxton, 1779, he proposed many important improvements at that place, which now prove highly advantageous to those who frequent that salutary spring. “ Among the necessary improvements,” says he, “ from which I hope the Public will be great gainers, we have recommended some private baths, as well as the public ones; and also to have a few capable of being warmed to any degree required. In this manner they cannot fail of being extremely useful in many diseases. At present, those who go thither follow no certain plan of operations, and return often with disgust ||.”—I ought before to have mentioned, that about the year 1770 he was extremely

* June 14th, 1767.

† For further particulars concerning its use, see *London Medical Inquiries*, vol. iii. and the present collection of Dr. Fothergill's Works.

‡ September 30, 1770.

§ March 9th, 1779.

|| November 11, 1779.

desirous of having the Bills of Mortality revised, and put upon a much better footing throughout the kingdom. "Would it not be practicable," says he, "to prevail upon the principal inhabitants of Northampton to attempt it?" To second his design, and to stimulate the people to so desirable an improvement, an address soon appeared in the Northampton Mercury, of which he was pleased to testify his approbation; concluding, "that by thus strenuously pursuing the object, we may in time be enabled to accomplish that, which a proper act of parliament would have established in an instant*." But I am sorry to add, that although the generality of the people seemed inclinable to adopt the plan, and two capital towns had already begun to carry it into execution, and have since fully evinced its utility †, yet the rest have not deigned to follow so laudable an example.

His successful Treatment of certain Epileptic Cases.

In consultation on an obstinate epileptic case, in a young man who had indulged in free living, whose disease had baffled a variety of medicines, he suggested frequent evacuations, and an entire vegetable diet. This method was soon followed by the desired success; and, after a very satisfactory trial had been made, I informed him of the result. To which he replied, "I have relieved many by a plan of this kind; viz. by interdicting animal food, by enjoining a spare vegetable diet, and interposing frequent gentle purgatives: and I wish that this plan may be tried in epileptic cases, which come under thy care at the Northampton hospital, as the result would, I think, afford useful information in our Medical Observations ‡." Here I think it necessary to remark, that notwithstanding all possible attention was paid to my worthy friend's request, the relief which resulted from this plan, though considerable, was chiefly confined to plethoric young men, from whose aspect and course of living there was reason to suspect a degree of turgescency, or congestion, in the vessels of the brain. Neither must it be concealed, that the flattering success in the above, as well as other similar cases in which it was tried, was generally defeated, whenever the patients committed any considerable excess in diet, or in the use of spirituous or fermented liquors: upon which I found it afterwards necessary to enjoin abstinence from these, as well as from animal food, and to interpose arteriotomy as well as purgatives, before the cure could be completed: and it must be further acknowledged, that, notwithstanding every precaution of this nature, the disease would sometimes recur, after very long intervals, even when no irregularity, nor any obvious exciting cause, could

* December 10th, 1770.

† Manchester and Chester.

‡ November 4, 1774.

be reasonably suspected. But every method of prolonging the interval, though we should not be always able totally to prevent the return of the paroxysm, certainly merits our attention. With this view, he also generally recommended an electuary, the basis of which consisted of tin filings, washed down with a strong decoction of mistletoe. The filings appeared to answer much better than when tin was given in the granulated state; though it might be difficult to give a satisfactory explanation of their mode of operation. Tin is allowed to contain a slight arsenical impregnation; and as arsenic has been lately discovered to have considerable efficacy in obviating the paroxysm of intermittents, when given in very minute doses; and as filings of tin seemed to prove equally successful in the epilepsy, whether they were accompanied by the mistletoe or not; may not the virtue of this semi-metal be, in some measure, attributed to a small portion of arsenic which adheres to it in this state, but is dissipated in the process of granulation?

On a Case of hereditary Gout, complicated with peripneumonic Symptoms:—and, whether Bath Water be adviseable under such Circumstances.

A gentleman of family and distinction, aged about forty, of a highly florid complexion, being of a very lively and convivial disposition, and too remiss in taking proper exercise, was often afflicted with severe paroxysms of the gout; a disease which he originally derived from his ancestors. During an interval of the gout, which had long been anomalous, he was suddenly attacked by a severe cough, and other peripneumonic symptoms; which, however, seemed to me to proceed from a latent arthritic cause. In this point of view, the Bath water appeared to be a necessary auxiliary; especially as the pulse and vital motions were not so much accelerated, as in the genuine peripneumony. But a doubt arose, how far he could, under such a seeming contra-indication, with propriety avail himself of its use. During this dilemma, having prevailed on him to allow me to state his case to my learned friend, I was soon favoured with the following very satisfactory answer:

“ DEAR DOCTOR,

“ I have considered our patient's case with much attention: and if my opinion corresponds with thy own, be so kind as to impart my free sentiments on this occasion. I think the water may be of very considerable use; and therefore wish him to repair to Bath. There are two situations of gouty people, in which, I think, the Bath waters are very useful: the one is, when the gout either

either does not attack the parts it ought to do, the extremities ; the other, when the strength has been so much wasted by the disease, as to leave all the functions debilitated. The first, I apprehend, is our friend's case ; and yet, as the lungs have suffered so much, and the Bath water, unless it is drank with great prudence, may tend to injure them more, we cannot enjoin too strict a regard to its use, and his general regimen ; the neglect of which will inevitably increase the peripneumonic tendency, and bring on mischiefs that no art can remedy.

“ To a man of quick sensations, to acquire an absolute command over appetite, requires more philosophy, more strength of mind, than most people are aware of. Yet it is the want of this command, and too easily yielding to the present moment of appetite, that not only disposes constitutions that are even averse to gout, to feel all its miseries ; but precipitates those who are entitled to it by birth, and, I may say, education, to the full severity of its torture.— If our friend can resolve to restrain himself, he may add to his days many years ; if not, the whole that art can do, is to extricate him from the effects of inattention, as long as nature assists us. It is much to be wished, that gouty persons could be prevailed on to fall on some plan to correct this propensity, and that they would never dine upon more than one dish at a time ; and, if there is much variety on the table, to chuse *that* which they *like* the least. Therefore say to our friend, If he regards his own life, the happiness of his family, his friends, and his country, he must either now determine to conform to the strictest regimen, agreeable to the rules here suggested, or prepare himself for the miserable life of an invalid—either extreme pain, or unutterable dejection of spirits ; according to what I have observed in a thousand similar instances.

“ In my opinion, it will be right for him to begin with one third part of a pint of the cross Bath water, with a few spoonfuls of milk added, in bed ; a second draught after rising, at the pump, before breakfast ; and a third before dinner. If the water does not increase the cough, affect the breathing, or produce some obvious inconvenience, he may gradually proceed to increase the quantity, and at length change the water ; and, if it agrees, drink the strongest in the same quantity, taking care to prevent costiveness by any gentle means.

“ I am, with much respect,

“ Thy assured friend,” &c.

London,

October 21, 1778.

It may not be amiss to observe, that about the time the above letter arrived, the medicines he had taken seemed to produce a happy effect in dislodging the gout from the internal parts : for no sooner did the pain seize the lower extremities, than the dangerous peripneumonic symptoms abated, and at length

wholly

wholly disappeared; which of course superseded the necessity of a journey to Bath.

His painful and dangerous Disease described by himself, about the Time of its Commencement.

The first attack of this formidable complaint happened in November 1778, which he describes as follows :

“ DEAR DOCTOR,

“ I have just received thy very obliging letter; and though I am not very fit for writing, it claims my grateful acknowledgments.

“ This day week, in the night, I was seized with a sudden obstinate retention of urine, which nothing would relieve but the catheter, and this with the utmost difficulty. Several trials having been made, under *inexpressible sufferings*, before any could be drawn off, we succeeded at last: but as no urine is yet discharged spontaneously, I am still under the necessity of submitting to the operation.—This is my present state:—what may be the event is very uncertain.—I thank thee for this kind proof of thy attention; and am thy assured friend,” &c.*

His Patience and Resignation.

In the next letter † he proceeds to describe the progress of his sufferings, with exemplary calmness and resignation :

“ I most kindly accept thy benevolent wishes, and am sorry I cannot yet inform thee I am in a visible way to be well. The same obstinate retention still continues to require the frequent use of the catheter, and to be guided by the most experienced hand in Britain, to gain admission into the bladder; such is the obstinate stricture at its entrance. But this possibly may relax in time; and I have the more reason to hope so, as the operation becomes less and less difficult to the operator himself. At present, I take no other medicine than a soft laxative potion occasionally; observing to regulate my diet, in as exact a manner as I can, so as neither to deprive myself too much of natural strength, nor to add to the disease. The complaint being now wholly local, our views will be directed to this point. We thought it better to wait for time to discover what ought to be done with effect, than too officiously to be combating a malady so very obscure.

* November 24th, 1778.

† Id. 28th.

“ When I can give any better account of myself, I will do it with the utmost pleasure ; as I know it will afford thee ample satisfaction. Till then, rest in hope that I am not losing any ground ; and that, under all this affliction, I am often *cheerful*, easy, and at *no time*, I hope, *discontented* with my lot. I am,” &c.

His Opinion concerning the Nature and Cause of the Disease.

Having for the space of three weeks undergone much anxiety on account of my dear friend's calamity, I was at length favoured with the following letter *, which afforded me the joyful prospect of his recovery. It contained moreover a solution of the chief difficulties of this very intricate and distressful case.

“ DEAR DOCTOR,

“ I am happy to inform thee, that I have not stood in need of undergoing the operation for these six days past, during which I have been daily gaining some little ground. I am almost afraid of facing the world yet ; but if I continue recovering, I hope the week after next to get a little abroad. I have much reason to be very thankful for my hair's-breadth escape, and shall not willingly run any risque of a relapse. At present my situation appears to be the following. I know not that the circumstances have ever been described, and therefore hope to be excused for suggesting my opinion.

“ The predisponent cause of this complaint, I think, was the unavoidable necessity (either for want of time, or convenience, or both) of retaining my urine longer than I ought, and to a degree of great uneasiness. This rendered the restraining muscles of the sphincter more forcible, and more irritable : a violent cold brought on an inflammatory disposition ; and the parts most liable to inflammation became the seat of the disease. The inflammation was removed by the usual means ; but the bladder had lost its power, while the contractors of the sphincters had increased theirs ; by which means, every effort was most painful and fruitless. It requires the united action of the contractile force of the bladder, the dilatation of the sphincter, and the acceleratores urinæ, to be exerted equally, and at the same instant, to perform this operation successfully : any irregularity in respect to time, or proportionate force, renders it impracticable. From this state, which *I feel very sensibly*, and which none but a medical person can have any idea of, I am now recovering.—I have no fixed obstruction, no perceptible enlargement of the prostate gland, no inflam-

* December 19, 1778.

matory diathesis; the secretion is perfect, but the *consensus partium* is imperfect. —I find, as I recover strength, this consent is improving; and I now have reason to hope for its full restoration. I know not that this situation is any where mentioned; yet *I am sure*, both from *attentive observation of my own present feelings*, as well as from *the condition of the parts*, that this supposition cannot be far from the truth.

“ I am, with much gratitude and esteem,

“ Thy obliged friend,” &c.

From this time he gradually recovered; and at length, to the unspeakable joy of his friends, was enabled again to pursue the duties of his profession with his wonted diligence and assiduity.

Here it may not be amiss to remark, that in this first attack of the disease, which he so pathetically describes from his own feelings, as there was no enlargement of the prostate gland, nor any fungous substance near the sphincter yet perceptible, there is reason to conclude that these morbid affections existed but then in embryo: and it is easy to conceive how the irritation, which necessarily accompanied so long and painful a suppression, contributed to the subsequent growth of that fatal tumour, which, about two years afterwards, put a final period to the life of my much esteemed—ever to be lamented friend!

I remain, Dear Sir,

Your very obedient servant,

A. FOTHERGILL.

Bath,

Dec. 20, 1782.

THE Bills of Mortality, wherever they have been kept in this kingdom, afford the most melancholy proofs of the fatality of Consumptions. Whilst a subject of such serious magnitude acquired the attention of Dr. Fothergill, it excited him to suggest some means of preventing, or at least diminishing, the ravages of a disease so fatal to the rising generation, and to that part of it, whose tenderness of constitution is often united with a delicacy and refinement of mind, that must peculiarly interest a feeling heart in the restoration and happiness of such subjects*.

Dr. Johnstone, of Kidderminster †, for whom Dr. Fothergill entertained a distinguished regard, has obligingly communicated to me the following copies

* See his *Essays on Pulmonary Diseases*, collected in his *Works*.

† Since the death of his son, removed to Worcester.

of letters, which respect the treatment of two consumptive patients; and as every thing Dr. Fothergill suggested in the *Phthisis Pulmonalis* merits attention, I agree with Dr. Johnstone in opinion, that their insertion here would be acceptable to the Public. He concludes his letter to me with the following animated eulogy:

“ I send you copies of two letters, selected from a correspondence with which I was honoured by Dr. Fothergill. They shew the application of those just ideas this divine man held concerning consumptive diseases. They will add some value to your collection of his Works; and I shall be gratified in having these remembrances of the friendship of this excellent physician, and of the great privilege and honour I enjoyed, preserved.”

Worcester,

December 20, 1783.

(N^o I.)

London, April 25, 1759.

“ DEAR DOCTOR,

“ Yesterday I received thy obliging letter, and the case it inclosed. I have considered this with attention; and sit down to give my opinion; though with much doubt of any thing availing, as well as my present situation will allow.

“ I am afraid a *Phthisis* is so far confirmed, that nothing can retard a gradual but certain dissolution of the whole. I know of nothing, at least under such circumstances, that promises so much as the Bristol water, drank at the Wells. If the gentleman can bear the journey, let him set out immediately, and take lodgings as near the Hot Well as possible. About seven in the morning, or earlier, he may drink his asses milk; and, about half past eight or nine, go to the well, and drink half a pint from the pump. He may drink a second glass at noon, and a third at five in the evening. In three or four days he may proceed to two half pints in a morning, and in three or four days more to three; continuing to drink one only at the other parts of the day.

“ His diet should be much of the milky kind, and of the lightest animal food, a little at once, and the oftener repeated; his exercise very moderate; and the slightest cold studiously avoided. In regard to medicine, after the trial of so many efficacious ones, it is difficult to propose any with a prospect of much success. The remedies proposed on the paper within, may, with such variations as Dr. Johnstone sees necessary, be worth a trial. The intention at present seems, to mitigate the cough, without totally stopping expectoration; and to lessen the inflammatory tendency, without weakening the *vis vitæ*. Every thing in medicine, as well as diet, of an active, heating, stimulating nature, should be studiously avoided: the mildest balsamics, with a gentle astringency intermixed, with antiseptics and anodynes, are all that seem at present indicated.

“ Vernal

" Vernal intermittents have been more frequent here than I have seen them for many years. It is often difficult to know them, they appear in so many shapes ; but the bark never fails to remove them effectually. Even low, continual, chronic complaints, of many kinds, become now intermittent, and give way to the bark, after baffling every other medicine. I believe I must be forced to enter a protest against some part of the great Sydenham's doctrine, respecting the use of riding in consumptive cases : in summer, it is right, with proper limitations ; in winter, I fear, it is not so. In this place we have too many opportunities of observing its delusive progress.

" I can only add, that I am Dr. Johnstone's assured friend,

" J. FOTHERGILL."

The patient for whom these judicious directions were given, died, according to Dr. Fothergill's expectations. The following medicines were prescribed :

" R. Pulv. e Tragacanth. comp. ℥i.

—— e Succin. comp.

Trochisc de Nitro āā gr. xv. fiat pulvis fumendus mane et serò e Cochlear. iv. Emuls. sequentis :

" R. Emulsion. communis, ℥viij.

Aq. Nuc. Moschat. ℥iss.

Syr. e Meconio. ℥ss. m. cap. Coch. iv. urgente Tussi.

" R. Tinctur. Cort. Peruvian. Spir.

Elix. Paregoric. āā ℥iij.

—— Vitriol. acid. ℥iss. m. cap. gutt. xl. meridie et vesperi, ex haustu aq. Bristol. tepesact.

" R. Pulv. e Tragacanth. comp. ℥iss.

Ol. Amygd. dulc. ℥iss.

Syr. e Meconio.

—— e Succ. Limon. ā ℥i. fiat Linctus, cujus cap. Cochleare unum plenum cubit. itur : & Cochlear. parvum, si Tussis nocte infesta fuerit.

" J. F."

(N° II.)

London, March 24, 1762.

" DEAR DOCTOR,

" If my leisure was equal to my inclination, Dr. Johnstone would not have been so long without some intimations of the regard and esteem I have for him.

But

But I live an exile in the midst of almost populous city, and secluded from all correspondence in the centre of it. It is only at night that I can have a moment's respite, and even seldom then: and judge with what reluctance one sits down to write even to a friend, when every faculty of body and mind has been kept upon full stretch for twelve or fourteen hours together: and this is my case daily, with a body not strong, and a mind not a little actuated with feelings for those I serve.

"Our patient's case is distressing. I think nothing so likely to relieve her as Bristol: to this place I could wish she was sent as soon as possible; and if the method proposed on the other side seems not improper, that, or somewhat like it, may at the same time be recommended.

"It will give the Society pleasure, to find their endeavours are not unacceptable; and that they may still hope for the countenance of the learned, the attentive, and ingenious.—Of late I have been prevented, by constant hurry, from attending the Society; but I am not the less solicitous for its credit, as I think the improvement of medicine greatly depends upon it; and I know not a place in the world where medicine is practised with a more masculine freedom and simplicity, and where we are at more liberty to follow nature, without the fetters of fashion or ancient prejudice.

"Should I live to enjoy a few years of respite from excessive labour, before my faculties, such as they are, are quite worn out, I should be glad to leave behind me a few way marks to posterity; not that I have made any discoveries, except it be of a few bogs and precipices, where an inattentive traveller may perhaps, from any thing yet left us that I know of, be liable to miss his way, and suffer for it.—Has any body ever thought of writing *Le Medicin de bon Sens*? yet what is more wanting in the practice of physic?—the means of acquiring that superiority with their patients, that commands their punctual obedience.—It is a science worth studying, hard to be learned, as hard to be taught, yet of some consequence. I am not the person who can do it, but I could wish to attempt it. Excuse this prolixity, and believe me to be thy assured friend,

"J. FOTHERGILL."

This worthy lady followed her prescription with the desired success; and is now the respected amiable mother of a large family.

"Pergat cum Lact. Asin. mane quotidie.

"℞. Rasur. C. C. Radic. Sarsaparill. āā ʒi. coque in Aq. Font. ℥iij. ad ℥ij.

Colaturæ adde

Aq. Cinn. Spir. ʒi. Syr. Balf. ʒij. m. Sit pro potu ordinario.

“ R. Tinct. Cort. Peruvian. Simp. ʒ iij.

— Myrrhæ Simp. ʒ i. m. cap. gut. xl. horâ ante prandium, et sextâ vespertinâ e Coch. aliquot Decoct. supra prescript. paulò tepefact.

“ R. Aq. puræ, ʒ x.

— Sem. Carui.

Spir. Minder. āā ʒ i.

Sperm. Cet. v. ovi. solut..

Pulv. e Chel. Canc. āā ʒ i.

Syr. e Meconio, ʒ i. fiat Haust. fumend. horâ somni.

“ R. Conserv. Rosar. ʒ ss.

Syr. Pectoral. ʒ ss.

— e Meconio, ʒ ss. m. cap. Coch. mane urgente tussi.

March 24, 1762.

“ J. F.”

THE following Letter from the ingenious Smeathman, author of an History of the Termites, is so much connected with the subject of my narrative, that its appearance here will undoubtedly prove acceptable to the Reader.

S I R,

I AM sorry to have been so long in complying with your request, of being made acquainted with the circumstances which induced me to undertake my voyage to the coast of Africa; as well as an outline of the advantages likely to accrue from it to the Public.

The desire of giving ample information is frequently, as in this case, the cause of involuntary delay. My attention indeed has been some time necessarily fixed upon objects, which demanded immediate consideration and present dispatch; and my engagements have not left me that leisure, or those opportunities, of which I could have wished to avail myself for your satisfaction. It is however with great pleasure that I now attempt this relation to meet your desire; and as it will give me an occasion of paying in part the debt of gratitude I owe to that great and good man *Doctor Fothergill*.

Every one who had the happiness of his acquaintance must have observed, that he was a fountain of benevolence, dispensing protection and assistance to
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the distressed; that he breathed the purest good-will to all men; and instantly endeavoured to promote their happiness, generally or individually, as far as lay within his power.

It was this disposition which led the Doctor to patronize this, as well as other expensive adventures to various parts of the earth, for the encouragement of arts and sciences, the advancement of medicine, manufactures, and commerce.

In the summer of the year 1771, my friend, Mr. Lee, of Hammersmith, informed me that the Doctor was desirous of promoting some enquiry into the natural products of the kingdom of Spain, and the coast of Africa; and of encouraging some lover of natural history to visit either of those countries. Desirous of travelling, and not particularly engaged at that time in any other pursuit, I eagerly seized the opportunity; and requested my friend to acquaint the Doctor, that a voyage to the coast of Africa would be exceedingly pleasing to me, as a country the least known to Europeans, and the most likely to afford a variety of new, curious, and valuable specimens in the three kingdoms of Nature.

This message was followed by an introduction to Dr. Fothergill; who expressed much satisfaction at my enterprize, and promised to exert his interest with other learned and philosophical gentlemen to encourage and carry it into execution. I then waited on Sir Joseph Banks, Bart. who had been impelled, by the ardour of science, to deny himself the enjoyment of an ample fortune and the most honourable connections, and encounter the hazards of a dangerous navigation round the world; from which extraordinary voyage he was just returned. Of this scheme that gentleman also expressed his warm approbation; and patronized it in the benevolent manner which ever characterizes men zealous for the promotion of useful knowledge. Marmaduke Tunstall, Esquire, F.R.S. to whom I was introduced by Mr. Lee, and my friend Mr. Drury, author of the *Illustrations of Natural History*—gentlemen eminent among the lovers of that science—having also promised their assistance, I engaged in the preparations for the voyage with such ardour and dispatch, that in about six weeks the cabinets, instruments, furniture, clothes, and various apparatus necessary for my plan, and adapted to the climate which I was to visit and reside in three years, were provided; and I had actually embarked. My diligence, joined to the anxiety natural to a sanguine adventurer, was attended with some unpleasant circumstances. I became languid and weak before I quitted England; and, in consequence, the sea sickness kept its cruel dominion over me during the whole voyage*.

When

* Experience and observation have led me to be of opinion, that embarkation, in an exhausted and relaxed state of body, will frequently be attended with long continuance of the sea-sickness; and

When I got on shore, this malady had so debilitated me, that I was unable to walk more than two or three hundred yards without rest. The first place at which I landed was the promontory of Sierra Leona, in the latitude of about 8°. 20. North; where a few days exercise, and land refreshments, in some degree restored my strength. A voyage of one day carried me in tolerable health to the Bananas, which are three little islands about eleven leagues more to the southward; which, from good information, it had been determined should be the center of my adventures in that country, and the principal scenes of my study and observation.

Pleasant scenes of vernal beauty, a tropical luxuriance, where fruits and flowers lavish their fragrance together on the same bough! There Nature animates every embryo of life; and reigning in vegetable or animal perfection, perpetually glows in wild splendour and uncultivated maturity!

I contemplate the years which I passed in that terrestrial Elysium, as the happiest of my life. The simple food, which my solitude usually afforded, was sweetened with rural labour; and my rest was not broken by those corroding cares and perplexing fears, which pride and folly are ever creating in the ambitious emulations of populous communities. Perhaps the reduction of bodily strength which I underwent, was of use; and proved a salutary, though severe preparative for the sudden change to a sultry, humid climate; which, from want of proper information, has been fatal to many enterprising and valuable adventurers.

Doctor Fothergill, in the warmth of his benevolence, and in providence for my safety, had given me some general instructions to guard against the diseases endemical to hot climates, and prescriptions suited to particular cases. I had also with me a medicine chest, and several medical and chirurgical books: among which were Lind on Diseases in hot Climates, Sharp's Surgery, Brooke's Practice of Physic; and particularly the London Practice*, written by an eminent merchant of this city, formerly of the Faculty; which the Doctor made me a present of, and recommended as the first book of the kind.

In about five days after my arrival at the Bananas, and by the time my little cargo was landed and secured, I was compelled to avail myself of the Doctor's goodness, being attacked by a miliary fever; of which, by following his

and that, on the contrary, the undertaking a voyage when in full health, or a state of convalescence, will be productive of salutary and agreeable consequences: and in this I have been confirmed by the concurrent observations of other travellers.

** The author of this publication, is James Bogle French, Esq; who was long an intimate friend of Dr. Fothergill; and it was with the Doctor's unreserved approbation that this useful work was published.*
Editor.

prescription pretty closely, with some reference to my other medical information, I got very well in a few days*.

By the same help having quickly cured my draughtsman, and several other Europeans, of very bad fevers, and healed the head of a negro, which appeared to be in a dangerous situation from the wound of a cutlass, which had penetrated the skull, I was complimented with the title of Doctor by both Blacks and Whites.

You, Sir, will perhaps smile at my medical enterprizes: but you will recollect that I was in a rude and uncivilized country, where a traveller has few resources but in his own knowledge or experience; and that his ease or safety, and the welfare of others, occasionally compel him to officiate in various capacities.

If success, however, can justify honours, my practice warranted and confirmed my title; and *Ba Docter il Bana*, or *Father Doctor of the Bananas*, left the coast of Africa with the conscious satisfaction of having sometimes mitigated human misery, and sometimes lengthened human life.

In a few weeks after my arrival at the Bananas, I had the mortification to hear that Mr. Graham, a worthy fellow-passenger, who had been driven by misfortunes to take a refuge in this dangerous climate, and who had not experienced a moment's pain or illness on the passage, but had partaken of the comforts of the table and all its indulgencies with his usual festivity, had fallen a victim to the bilious fever, within a month after our separation: within a short

* In one of the Doctor's affectionate letters he observes,—“The diseases most to be dreaded on the coast of Africa, are fevers and fluxes. To prevent these as much as possible, in case of perceiving any feverish symptoms, take care, in the first place, to cleanse the stomach and bowels by a proper dose of some antimonial, joined with ipecacuanha: a drachm of antimonial wine to an ounce of ipecacuanha wine will probably be sufficient; and the antimonial may be continued, to the quantity of twenty drops every six hours, till the heat abates. It will then be necessary, in most of the fevers on the coast of Africa, to have recourse to the bark, in large quantities, during the interval of the fits: an ounce may be taken, either in a little brandy and water, or red port and water, between the fits; half an ounce between the next two fits; and so on till the fever goes off. If the bark occasions costiveness, add a quarter of an ounce of Epsom salt to an ounce of bark, and take it as above directed. Eat any kind of ripe and wholesome fruit, but eat it sparingly. Never load the stomach, if possible, even with the lightest nourishment.—In case of any attack of the flux, with vomiting, pain, and much inquietude, griping and purging, order a common fowl to be killed, plucked, and split open, the entrails taken out, and the fowl to be put into six quarts of water, and boiled about eight minutes. Drink the whole of this liquor as quick as possible. If it does not make its way downwards sufficiently, let a pint of it be given as a clyster.—The great causes of all distempers in hot climates, at least the generality, either proceed from, or are aggravated by, bile; and to discharge this, either upwards or downwards, is the best method of cure. If, after proper evacuation, the pain should continue, anodynes will then be serviceable, and not till then.”

month of the time, when we had promised ourselves soon to meet again, and settle future plans of mutual operations and convenience. He was a chearful man, of athletic form, and healthy appearance; on which however little dependence is to be placed in that climate. Medical assistance, seasonably and judiciously administered, would, in all probability, have prolonged his life.

But where was such help to be found? Not among people living on the simplest food, and little acquainted with the virulent diseases to which our luxuries and refinements make us liable.

Even I was too far distant to communicate relief to this unfortunate adventurer. Such is the rapidity with which disease brings dissolution in those climates, that, as in this instance, the news of sickness and death generally arrive by the same messenger. However, the inconveniences I felt from the fatigue I had undergone, previous to my embarkation, were amply compensated by the advantage I afterwards received from the great number of useful things I had amassed together; which not only supplied many unavoidable wants, but enabled me to assist my neighbours, and barter some of the conveniences for the necessaries of life.

During my stay abroad, Doctor Fothergill was exceedingly attentive to me. He expressed all the tendernefs and sollicitude of a kind parent, and really almost kept me alive by an uncommon fund of kindness and philanthropy, which breathed in every line of a long and punctual correspondence. During my travels I made various observations; among others, some medical ones. These, he said in one of his letters, “ gave him great satisfaction, and would, one time or other, with a few corrections, make a valuable present to the public.” They are now before you*.

A Diary which I kept of the weather, with observations on the Harmattans, may probably throw some light on meteorological knowledge. I sent home to Sir Joseph Banks, from Africa and the West Indies, about six hundred different species of plants, most of them from Africa new, and among them many new genera: one of those Sir Joseph Banks has done me the honour to call *Smeathmannia*. In insects I was still more successful: my collections have enriched most of the cabinets in Europe with singular and beautiful genera and species. In minerals and shells I was not so fortunate. In this part of Africa are no mines; and the steepest cliffs are soon covered with verdure if any part is torn away: indeed, the channels of rivulets and the sea shores scarce afforded any variety of fossil bodies: it did not appear to me that I had seen five different

* This ingenious traveller is preparing a large work for the press, in which it is hoped the encouragement of the Public will induce the author to relate more fully the particulars of a useful and entertaining voyage.

Editor.

species in all the countries through which I passed. I lost the greatest part of the shells, birds, and animals, which I had collected and preserved, by misfortunes; and for want of casks and jars, and ardent spirits, I was precluded from making any great collection of fish and amphibious creatures. In the account of the Termites, or white Ants, I have perhaps usefully extended the knowledge of the œconomy of Nature, by investigating and elucidating a mode of propagation, new to naturalists, as singular and wonderful in itself. In this account some of the works of creation are illustrated. By shewing the general and important objects of the agency of insects, hitherto only known by the partial destruction which they commit, their uses are demonstrated; and I have thereby contributed my mite “to vindicate the ways of God to man*.”

He travels to a very limited purpose, who passes through a country, and confines his views to the inspection and investigation of its natural productions, without attending to objects that do not degrade the studies of the naturalist, and may justly be deemed more important; and, as the noblest and most interesting study of mankind is man, I am in hopes that my observations on the manners and customs of the inhabitants of those climates will be of utility, and not the least entertaining. Opening a new prospect of human nature, and of our transactions in those parts, will, I trust, ultimately be conducive to the happiness of those wretched people, who form the chief object of our mercenary visits to that continent. My historical account of the trade to Africa, from the earliest voyages to the present time, may probably throw some light on a subject of great importance, and tend to the advantage of commerce in general. After a residence of about four years in Africa, I embarked with my collections for Europe, by way of the West Indies; but being very ill on my arrival in Tobago, I determined to stay there, rather than meet the winter's winds, which the ships from thence, at that season, must necessarily encounter. I had seen the equinoctial lands in a state of nature, and was curious to mark the appearance of them in high cultivation. Much information too was expected, nor did the event disappoint my wishes; and great as my misfortunes were in consequence of that stay, the knowledge I thereby obtained scarcely leaves me room to regret them. In the mean time Dr. Fothergill finding, that notwithstanding all our care and precaution, my success had been much abridged for want of sufficient information before I set out, projected another voyage on a larger scale; which however my stay in the West Indies, together with the American war, frustrated. This plan was to have enabled me to

* This curious account of the Termites was first published in the Philosophical Transactions.

Editor.

purchase

purchase a small ship, in which I was to have traded for ivory, dying wood, cotton, indigo, wax, oil, gum, &c. and to have collected subjects of natural history at the same time. By this method I might have amassed a great collection with little or no expence, and have got things home in good condition, which would be soon ruined on shore, for want of conveniencies to preserve them from the corrosive damps, destructive insects, voracious animals, the stupid carelessness or curiosity of the ignorant natives, and the irresistible vicissitudes of weather in those hot climates.

My stay in the West Indies furnished opportunities of corroborating and improving the observations I made in Africa. There I became acquainted with tropical agriculture and manufactures, and much to my satisfaction.

Dr. Fothergill's character was too well known to require the praise of an individual, but I take pleasure in acknowledging that I received from him many great proofs of his generous and liberal spirit; and though I staid abroad two or three years longer than I ought to have done in prudence, much against his inclination, and indeed against his opinion and request, when I returned he received me with all the kindness of a real friend, and continued it to that fatal period, which his too great sollicitude to serve mankind brought on so prematurely. It is well known the Doctor paid very liberally for what the vulgar call curiosities; but it neither arose from a ridiculous taste for virtu, nor for want of knowing the true and intrinsic value of those things. He possessed that taste which seems common to well-informed minds and enlarged understandings, and could quickly see, and accurately perceive, the beauties of creation; yet he did not purchase such things from the mere delight they gave, either in observing or possessing them, but from that noble and glorious motive which was the rule of his conduct—the wish to promote useful knowledge, and the happiness not only of his contemporaries, but of posterity. Hence he was a constant patron and friend to ingenious artists; and, to my knowledge, merely to encourage and support them, often bought things which he neither much admired nor wanted. He even employed those whose conduct he disapproved, that they might not by distress be driven to do a second time, that which had lost them their character, and exposed them to ruin and misery.

His name will be venerated, I hope and trust, as long as the knowledge of letters and goodness shall continue respectable among mankind. You, Sir, will have the singular honour and happiness of recording to future ages one of the best men that ever existed: a most illustrious example; to be revered, but not easily imitated. Whatever those who were unacquainted with his virtues may have thought or asserted, what I now say (if my heart does not deceive me) is
strictly

strictly true, though faintly expressed : for words are inadequate to paint my feelings, or to do justice to a character so transcendantly good. I offer these facts as one testimony of the amiable qualities of this uncommon philanthropist ; facts, with which all his friends are very well acquainted.

I am, very respectfully,

Sir,

Your most obedient

and humble servant,

*Clement's Inn,
19th October 1782.*

HENRY SMEATHMAN.

THE following Essays include Dr. FOTHERGILL's posthumous pieces. They contain so much useful information, that every medical reader will lament the loss of a physician, who was once not only one of the best qualified, but likewise one of the most willing, to impart instruction.

“ The last Essay contains a particular account of the epidemic cold, as it appeared in various parts of the nation towards the end of the year 1775, collected from a general correspondence which the Doctor established with the Faculty at large. From these materials, and his own sketch, he intended to have formed a complete history of this disease. What his sudden decease prevented him from performing, the Society (of which he was President at the time of his decease) have now endeavoured to accomplish. Indeed, considering the not unfrequent returns of this epidemic; how troublesome it was to most; how it affected many with lasting debility; and, though not dangerous in itself, how it accelerated the fatality of dangerous distempers; it deservedly becomes an object of serious enquiry to the Faculty.”*

* See Preface to the sixth volume of Medical Observations and Inquiries.

SO various are the causes of diseases, that it is difficult to lay down a general rule of practice, without some exception; and, perhaps, in no diseases is this more true than in the Epilepsy and Apoplexy, as in none have the obvious causes been more clearly exhibited by dissection, and collected in the *Sepulchretum Anatomicum*, Morgagni de *Causis et Sedibus Morborum*, and Lieutaud *Historia Anatomica*; and these afford us many instances of inflammation and fulness of the vessels of the brain, and other causes which evidently indicate copious evacuation.

It must be admitted, that, in many cases of Apoplexy, the indiscriminate use of the lancet has done irreparable injury; but it is as clearly established, by writers who have drawn their observations from dissection and practical knowledge, that, in other cases, no less injury has resulted from the omission of venæsection. I have, therefore, submitted this caution, lest the Doctor's judicious objections against the improper use of bleeding in Apoplexies in general, might be construed into a total exclusion of the lancet, where it cannot be rejected with impunity.

Editor.

REMARKS

R E M A R K S
ON THE
C U R E O F T H E E P I L E P S Y.

TO WHICH ARE ADDED,
Some Considerations on the Practice of Bleeding in APOPLEXIES.

Read, September 21, 1776*.

To the MEDICAL SOCIETY in LONDON.

GENTLEMEN,

I Shall suppose the disease to be well known to the physician who is consulted on an epileptic case; and that he is anxiously considering which of the various means, either the authority of the best medical writers, or his own judgment, may point out, as the best under the present circumstances.

Permit me here to relate what has happened in my own practice. Though the epilepsy is not a disease that can be said to be very frequent, yet in the course of a physician's practice of moderate employ, many cases must occur, and in persons of different ages and conditions. Some have the disease from early youth; in others, it begins about puberty, or later; some are attacked chiefly in the night; others, seldom but in the day. Both sexes are exposed to it. In some females it returns with a degree of regularity, now and then preceding a certain period, now and then succeeding it; and a multitude of causes seem to influence the vehemence of the attacks.

* Medical Observations and Inquiries, vol. vi. p. 68.

My first endeavours to subdue this disease were directed by the best information I could collect from those who had treated professedly of it, and from the observations of men of long experience and extensive knowledge in their profession. Particular medicines, as specifics for this disease, were more or less enjoined by all, as worthy of great attention: and also those which come under the name of nervous medicines, as valerian, castor, the gums, and many others: these I followed with strict attention, and sometimes I flattered myself with success. The disappointments, however, that I met with in many instances, made me dissatisfied with this method; it was always tedious, too often uncertain.

In several cases, I thought much benefit was received from the use of tin, and in such where there was no just reason to suspect worms were the cause. I gave it liberally, and often without addition, that I might be the better able to decide on its efficacy. Sometimes I added a decoction of mistletoe; sometimes valerian; or other reputed medicines. I had the satisfaction of finding full as much advantage from this process, as the preceding.

The filings of tin, made into an electuary with some conserve and a little syrup, was the medicine I made use of, and on various considerations I prefer the filings to any other mode of preparing this metal for internal use. If any benefit is to be expected from tin as a medicine, it must arise either from some qualities in the tin itself, that are communicable to the habit, or from the form it is given in.

The form it is usually given in, is the powder, to which it is reduced by frequent fusions. It is reasonable to suppose, that the more frequently it is exposed to the action of the fire, the more it is deprived of any qualities it possesses that are communicable to the habit; so that it may rather be deemed an inert calx, than a medicine of any efficacy, in the form in which it is commonly exhibited.

If any medical properties reside in the tin, it is most probable they are the more entire the seldomer it is exposed to fusion; the filings, therefore, in this view, seem to be much preferable to the powder, and still more so, if it should be thought that worms are the cause of the epilepsy. For it is most likely the anthelmintic virtues of this metal proceed much more from the points of the filings, than from any other peculiarity it possesses. Large doses of tin filings are undoubtedly a certain remedy for the *tania*, given to the quantity of an ounce a day, which may be taken with ease and safety for four or six days together, succeeded by a moderate cathartic; and both repeated once a fortnight, for two or three successive periods: these seldom fail of curing the disease entirely; and I believe this cannot be said so safely of any other medicine now in use for removing this obstinate disorder.

Finding,

Finding, however, there were epilepsies that eluded all my endeavours, it seemed necessary to adopt some other line of procedure. I had observed that the fits were most liable to return in the plenitude of health; that epileptics were often extremely incautious in respect to diet; that children, highly indulged, were liable to the disease; that in every other period of juvenescence, and in middle-aged adults, if they were attacked by the disease, it was when they had either committed some excesses, or, by one means or another, were plethoric; and that, in habits subject to epilepsy, the disease seldom recurred, without either an habitual indulgence in eating, or a neglect of necessary exercise. This induced me to recommend, in many cases, a total abstinence from all animal food, and from all fermented liquors. Care was taken to regulate the secretions, and such a course of medicine prescribed, as might seem expedient to induce the patients, or their friends, scrupulously to comply with this course of diet. It was in vain to restrict the quantity of animal food: there are few who have, at all times, resolution enough to submit to the first intimations of satiety. It was, therefore, necessary to enjoin that kind of diet which was accompanied with but slender provocations to excess, and which, at the same time, would afford the least quantity of nutriment; whereby that fulness, which, in many epileptic cases, appears to be a stimulus sufficient to produce the spasms, would be avoided, and the parts which are the immediate seat of irritation might gradually recover a degree of strength and firmness, that would be proof against every slight impression.

In young boys, I apprehend the epilepsy most generally proceeds from their own craving appetites, and the neglect of those who are about them. It may not be improbable that, in such cases, worms may also have a share in producing the fits. Be this as it may, anthelmintics, however powerful, seldom cure the disease; they may abate, occasionally, the frequency, or the violence of the attacks, but they too often, at the same time, bring on a greater degree of irritability, and at length, if repeated frequently, and in considerable doses, seldom fail of confirming the disease. Mild laxatives, with a light chalybeate interposed, and steadily continued, together with a course of diet, consisting of milk, vegetables, fruit, and things prepared from them, and in moderate quantities, seldom fail of removing the disease in such habits. Riding, and bathing in cold water, and the usual means of establishing good health, must, at the same time, be attended to, and the plan pursued with patience; for it is not to be expected in diseases that affect the nervous system, the most remote and finest part of the œconomy, when once they have debilitated, or otherwise disordered, these very feeling parts, and their influence is become habitual, that after-medicines, however active, penetrating, and efficacious, can, in a very short time, restore the ability to perform their functions as they ought to do.

It often happens in cases, that a proper plan of diet is of much more importance in the cure, than any thing we are acquainted with in the *materia medica*: it is, however, of not less necessity to engage the patients and their friends in a steady perseverance in the method we direct. The generality of people have very little notion that diet can do more than merely support their strength; that it can be made subservient to the cure of their diseases, they cannot easily be brought to comprehend. Many will, however, implicitly obey the rules laid down to them in this respect, during a course of medicine, and will follow the physician's injunctions steadily, through fear of counteracting his intentions by their own neglect.

For the disease we are treating of, we are amply supplied with many noted specifics, any of which may be given without prejudice, for a long space of time, if due attention is paid, in the mean while, to the nature of the *ingesta*; and the quantity, supposing there appears not any obvious indication to point out remedies to a particular object, as there does in the case of young females, when the fits may appear to proceed either from a total obstruction or deficiency in the *menfes*, in which cases it is evident what ought to be principally aimed at—promoting this discharge by the means most likely to effect it in the case before us. And I believe, in these instances, it will generally be found that the method of diet I have proposed, will be not less necessary, than in those in whom the disease may be ascribed to gross diet and *plethora*. We seldom find chlorotic habits affected with epilepsies. For the most part, epileptics are plump, sanguine, rather of a strong make, and low stature. The *menfes* do not seem to be deficient in these, either through want of strength, or sufficient quantity of blood. The *impetus* seems wrong directed.

Costiveness is often a companion of this complaint, in the generality of cases, and should always be our first business to obviate. In short, a distended stomach and loaded bowels appear, in most cases, to be strong disposing causes to this disorder.

When I have reflected on the various specifics which have been employed in the cure of epileptics, and on the cases related of their efficacy, I could scarce forbear suspecting that some of them, at least, have effected a cure by a very different operation than that for which they might have been intended by the prescriber. I may possibly have fallen into the same predicament, and rather propose it as a question worthy of some attention, than as a point proper for me to decide upon.

Valerian, castor, the foetid gums, empyreumatic oils, and any thing if possible still more disgusting, commonly make a part of the medicines proposed for this disease. There are some others, whose qualities, indeed, are not quite so repugnant to our taste and smell, such as the mistletoe and the *flores cardamines*;
but

but to balance this difference, it is requisite to take these such a length of time, and in such quantities, as make them not less disgusting at length. May not, therefore, both these kinds of medicines, and most of those made use of as specifics from ancient authority, now and then confirmed with instances of benefit, derive the greatest part of their consequence from their quantity, or their disgusting qualities, which, by lessening the appetite, allow nature to recover herself, and shake off a disease, which indulgence principally produced?

It is by no means my intention to enter minutely into the treatment of particular cases of this distemper. From the opportunities I have had of observing it in various situations, I think, in general, this method of proceeding has been the most successful. There may be cases, wherein the disease is so strongly rivetted in the constitution, as to admit of very little assistance from any method hitherto devised; but, for the most part, sooner or later, by a steady perseverance in a course like the preceding, the disorder gives way.

Perhaps a single grain of calomel, with three, four, or five of *pil. ruf.* given every night, at bed-time, for fifteen or twenty days together, may often prove an efficacious emmenagogue in the cases formerly mentioned. The dose should be such as to procure a motion the day following, and, if this is aided with very small doses of a chalybeate bitter, considerable benefit may be reaped from it. Those who are about the sick should be particularly careful never to call their attention to the time of the moon, or any other periodical return. Perhaps this attention, once deeply impressed, has much more influence on the return of the fits, than the changes of the moon, or any other revolution.

The sudden influence of terror, is often said to produce epilepsies: I have met with many relations of this kind, and the fact is not improbable. In these cases, the medicines now stiled sedatives, are clearly pointed out, especially if the disease returns at any known period, that they may be given before-hand. Small doses of anodynes are sometimes beneficial, and large ones may become necessary, if the fits proceed from any violent pain, as is sometimes the case from that which attends menstruation. In these circumstances, the dose of opium must be such as gradually may overcome the pain, giving one or two grains every hour till the pain abates.

I must intreat your patience a little longer, while I mention some circumstances relative to another disease, altogether different from that which I have been mentioning. I do not think what I may have to say upon it requires a formal chapter on this subject; yet some doubts have arisen respecting the cure of it, which makes me desirous they should either be cleared up by your own
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and the experience of others, or that a practice somewhat different from the one generally adopted, should be recommended.

Bleeding in apoplexies is one of those operations which, on several accounts, requires the most dispassionate consideration.

In no disease, perhaps, is the judgment of the prescriber of more consequence to the patient.—If it is successful—if the patient recovers upon it—it is a fortunate event for both. If bleeding is performed when it ought not, either death ensues, or an incurable *hemiplegia*.

This being the case, it is worth while to consider the affair as carefully as possible.—Who are the persons most subject to this distemper?—those who live freely, or rather eat plentifully; and whose make, or manner of life, disposes them to such attacks; fat, short-necked, inactive persons, and who neglect due care in respect to evacuations, especially when the weather changes to an extreme, either as to heat or to cold. Such people are most commonly disposed to apoplexies; and it is evident that such are mostly plethoric, both in reality and appearance. Where, then, can a doubt lie in respect to bleeding, when a person is seized with an apoplexy? and, especially, if the pulse be extremely full and tense, with a general appearance of suffocation?—It is often, nay most commonly performed under these circumstances, I confess, and yet, from the consequences attending it in general, there seems reason to suspect, that bleeding, in this case, is performed much oftener than is proper or conducive to the patient's recovery.

If a person fall down in a fit of any kind, the surgeon is immediately sent for; he, perhaps, upon feeling the patient's pulse, finds it as above described, and general practice not only authorises, but custom, become a law, generally directs the operation. The pulse, in such a situation, is often an insufficient guide; it may be that struggle which arises from an exertion of the *vires vite*, to restore health. I believe it happens in most cases, where there has been a temporary, or even momentary cessation of their animal powers; and it is, perhaps, in this situation that bleeding is performed, and often very liberally.—It is possible that, by lessening the quantity of blood, the resistance to the heart is lessened, and what nature was attempting in vain, is acquired by this means, and the patient's recovery much facilitated.—It is possible, likewise, that by a copious bleeding, the animal strength may be so much reduced, and the effort begun so powerfully checked by the operation and the effects of the disease itself, that the patient expires soon afterwards, or survives a few days, and suffers a *hemiplegia*; none of which might probably have happened had bleeding been omitted. It becomes the operator, therefore, most carefully to attend to every circumstance of his patient's situation, before he opens a vein, which may, perhaps, be decisive of his patient's fate.—The following circumstances

stances may enable the practitioner to form a judgment of what is necessary to be done, with some degree of precision.

Among the several causes from whence apoplexies appear to proceed, perhaps a plentiful meal is the most common. I need only refer to the numerous instances of sudden deaths that are mentioned in the daily papers. Scarcely any thing is more common than articles relating, that such a one dropped out of his chair, after eating a full meal.

If one considers the time it may require to perform digestion—to transmit a large quantity of chyle into the blood, and suddenly to increase the mass, so as to form a fatal *plethora* almost instantly, seems scarcely credible; and yet this is the principal ground, I believe, on which phlebotomy, in these cases, is generally deemed to be of absolute necessity.

To me it seems much more probable, that a large undigested meal, distending the stomach, pressing upon the *aorta descendens*, obstructing the free expansion of the lungs, is the means of crowding the arterial system in the head with more blood than ought to be there, and hence producing the disease.

It is true, if we could suddenly remove this surcharge of blood in the upper parts of the body by bleeding, and without reducing the patient's strength, it would be at all times requisite; but this is hardly to be expected: we are, therefore, to remove the obvious cause as speedily as possible, that is, to endeavour, by all the means we can, to remove the load by emetics and purgatives, and to excite as plentiful a flow of blood and vital energy to the lower extremities as we can by stimulants, sinapisms especially.

Liberal doses of white vitriol, $\mathfrak{z}i\ 3ss$ for a dose; emetic tartar dissolved in water, and got down by spoonfuls, furnish us with the means of promoting the alvine discharges with effect. We need not be under much restraint in the use of these medicines, till thorough evacuations are procured. The stimulus exerted on the stomach, and the room provided for a freer circulation, are almost alike beneficial, and without diminishing the patient's strength, make way for his recovery. The faintness or weakness which these evacuations produce are temporary; a little broth given frequently, a glass of wine, or any cordial, soon, for the most part, recruit the loss sustained by these evacuations.

If the patient cannot swallow, active irritating clysters may be given, frequently repeated, and every endeavour used to empty the bowels speedily and effectually.

Flour of mustard-feed, and soft bread made into poultices, with a strong infusion of horse-radish root, to be applied to the soles of the feet, generally act both speedily and efficaciously.

Sudden gusts of passion, in particular constitutions; exposure to sudden heat, by the reflection of the sun against hot walls; or by sudden alterations of the

weather

weather from cold to great heat, or from moderate to extreme cold; the suppression of some usual evacuation, frequently produce apoplexies; and, perhaps, at such times of the day as will not allow us to charge them to the account of plenitude; and even in these cases, it will be necessary to consider the habit and other circumstances, before we bleed. Could we have foreseen the accident, bleeding might probably have prevented it; but when it has happened, if copious evacuations from the bowels afford no relief, I fear that bleeding would not only be ineffectual to recovery, but would sap that strength, which, in these cases, is of great importance to it.

It seldom happens that a physician arrives at the patient before this operation is performed, let the disease have originated from what cause it may; and though very few would probably recover if this operation had been omitted; yet, comparing what has happened to those who have been bled, and the few I have seen who have not, I am of opinion that bleeding in apoplexies is, for the most part, injurious, and that we should probably render the most effectual aid, by endeavouring, in all cases, to procure a plentiful discharge from the stomach and bowels; as, by these revulsions, the head is, perhaps, much more effectually relieved from plenitude, and that without weakening or interrupting any other effort of nature to relieve herself, than by venæsection.

There is a circumstance of some moment to persons who, from their make, may seem more disposed to apoplexies than others, which I have frequently taken notice of, and it appears not improper to mention it in this place. The following relation will probably explain pretty clearly what I wish to inculcate.

A gentleman not quite thirty years of age, of a size rather tall than short, remarkably plump, fresh complexion, and his neck very short; his manner of living full, never to great excess, in respect to liquors especially.—He was seized with an apoplectic fit one day, as he was crossing the Thames in an open boat; the waterman landed him, as quick as possible, at the place he was going to, where all possible assistance was procured expeditiously, and he soon recovered. Being at a distance, I was not called in as a physician, but I saw him at his own house soon after his recovery. In our conversation I enquired, if he could recollect the posture he was in when he lost himself: he replied, he was looking at a ship which had formerly belonged to his brother and himself, and kept his eye upon her after he had gone by her, till he lost himself, and sunk down in the boat.

This, and some other occurrences, have induced me to think it is very unsafe for persons of such a make to look backwards any length of time, without turning the whole body; and if we inquire of such persons, they generally acknowledge,

acknowledge, that they find themselves become extremely giddy, and in hazard of falling down, when they keep in that posture only for a moment or two. And I believe that many persons have dropped down in apoplectic fits merely from this unheeded cause.

If we take a hollow flexible tube of leather, or any other yielding substance, six inches or more in length, holding one end in each hand, and endeavour, by turning each hand a contrary way, to twist the tube, we shall make but very little impression on its cavity, whilst our hands are at that distance, with one twist of our hands; but if we shorten the distance, and leave only one or two inches between each hand, the same turn of the hands, opposite ways, will lessen the diameter of the tube extremely, nay almost wholly to bring the sides of the tube into contact, and prevent the passage of any fluid.—In some respects, the same thing happens to the jugular veins in very short-necked people. The carotid arteries lying nearer the centre of motion, are very little affected by the turn of the head, even in very short-necked people; they continue to convey full streams of blood to the head. But this is not the case with the jugular veins; they lie near the surface, and, if the neck is short, and full at the same time, the twist so far contracts their diameters, that it is impossible for them to return a proportionable quantity. Hence, therefore, first a giddiness, at length a total, though temporary cessation of every faculty, or, in other words, a perfect apoplexy.

The shorter the neck, the longer and more fixed the position, the speedier and more lasting the effect will be, every thing else being alike. If the shirt-collar, stock, or neckcloth are tight, they will increase the accident not a little. All such people should, therefore, be advised never to put themselves into this posture, but to turn their whole bodies towards the object they wish to view, whether they are on foot, on horseback, or in a carriage. For although apoplexies proceeding from such a cause may be attended with no very bad effects, yet the fall of itself, and the fear it inspires, may be productive of much injury.

THE HISTORY OF THE

REIGN OF

CHARLES THE FIRST

BY

JOHN BURNET

OF THE UNIVERSITY OF OXFORD

IN TWO VOLUMES

LONDON

Printed by J. Streater, at the

Sign of the Sun, in St. Dunstons Church-yard

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THE following paper was first read before the Select Society of Licentiates, of which Dr. FOTHERGILL was President at the time of his decease. At that time, or since, the Doctor informed me that it was very imperfect, and that one sheet of the manuscript was mislaid; though since, I believe, it has been recovered. After his death, his medical papers were laid before the Society who have favoured the public with six volumes of Medical Inquiries and Observations, of which Society he was likewise the President. I thought it a decent respect to the memory of Dr. FOTHERGILL, to mention this circumstance, to prevent any unfavourable impression which the reader might entertain from observing the imperfect language which, in many instances, this and the preceding essay, on the Cure of the Epilepsy, &c. exhibit.

Soon after I concluded to publish Dr. FOTHERGILL's Works, I applied to the Society for the Doctor's manuscript papers, with the approbation of his executors; but this request being refused, it obliged me to protract my edition, till the Society had published their sixth volume. I was the more reconciled to wait, under an expectation that the communications of my deceased friend would have been accurately corrected; but so greatly am I disappointed, that, in justice to a writer of his perspicuity, I have ventured to correct some erroneous and ambiguous sentences; and hope that the Society, upon reviewing their publication, will be induced, from a just respect to the memory of their deceased President, to cancel and reprint the sheets to which his name has been prefixed, as an act of justice due to his literary character.

Editor.

R E M A R K S

O N

That Complaint commonly known under the Name of the
S I C K H E A D - A C H.

Read, December 14, 1778*.

THERE is a disease, which, though it occurs very frequently, has not yet obtained a place in the systematic catalogues. It is commonly to be met with in practice, and is described by those who are affected with it, and who are not few in number, under the compound title of a sick head-ach.

Under this title they, at least, describe their feelings, and, on a little inquiry, one finds that they are affected by both sickness and head-ach.—This is not the complaint of any particular age, or sex, or constitution, or season—it is incident to all. The sedentary, inactive, relaxed, and incautious respecting diet, are the most exposed to it; and they are, sometimes, not much less sufferers by the means frequently made use of to remove it, than by the disease itself.

To collect into a short compass all the symptoms which accompany this disease, would be difficult, and not so very interesting; to describe so many, as to make the complaint easily to be distinguished in the first place, and in what manner it may be treated with success, will be of more importance.

Those who are affected with the sick head-ach, most commonly describe it in this manner;—that they awake early in the morning with a head-ach, which seldom affects the whole head, but one particular part of it, most commonly the forehead, over one frequently, sometimes above both eyes.

* Medical Observations and Inquiries, vol. vi. p. 103.

Sometimes it is fixed about the upper part of the parietal bone, of one side only; sometimes, and not unfrequently, the *occiput* is the part affected: sometimes it darts from one to another of these places. From the time it commences, till it wholly ceases, it is sometimes more, sometimes less tolerable.

With this is joined more or less of sickness, which in some is just barely, in many people is not sufficient, without assistance, to provoke vomiting. If this pain does happen, as it most commonly comes on early in the morning, and before any meal is taken, seldom any thing is thrown up but thin phlegm, unless the straining is severe, when some bitter or acid bile is brought up. In this case the disease soon begins to abate, leaving a foreboding about the head, a squeamishness at the stomach, and a general uneasiness, which induces the sick to wish for repose. Perhaps, after a short sleep, they recover perfectly well, only a little debilitated by their sufferings.

The duration of this conflict is very different in different persons; in some, it goes off in two or three hours; in others, it will last twenty-four hours, or longer, and with a violence scarcely to be endured, when the least light or noise seem to throw them on the rack. In young persons, it most commonly goes off soon; if it continue to harass them many years, as it sometimes does, the fit is of longer duration, and leaves the whole frame in so weak a condition, as to require some length of time to recover.

Its returns are very irregular, as must be the case, since the disease, for the most part, proceeds from accidental causes. Some have it every two or three days, some once in two or three weeks, others in as many months, and some yet seldomer.

I have met with it in most habits and complexions, mostly in the early and middle parts of life, and amongst the middle and upper ranks of life. Those who use but little exercise, and are inattentive to their diet, are the greatest sufferers. Costive habits are more exposed to it, than others of a contrary disposition. I have known many instances, where a disposition to purging, become habitual, has entirely removed this complaint.

The disease is very frequently treated as a nervous distemper—as an ague in the head, as a spasm (which indeed it appears to be), and perhaps considered as pertaining to other diseases.—The manner and time of its attack, is after digestion is performed, the chyle admitted into the blood, and the bile has acquired its full activity, undiluted by fresh supplies of liquid; the stomach and *duodenum* empty, and the nerves exposed to irritation: and indeed, from numerous circumstances, it is most clear, that the head-ach proceeds from the stomach; not the reverse, as is the opinion of many who have been sufferers by it.

Having

Having had some little experience of this complaint myself, and having met with numerous occasions of seeing it in others, in a variety of degrees of force and continuance ; and having likewise attended to the different ideas and modes of treatment, in regard to this distemper, I thought it might be useful to suggest what had occurred to me on this subject ; and the more so, as it may lead to some explanations respecting diet, which it is of some consequence, to the sick especially, to be made to comprehend.

My opinion of this disease is, that, for the most part, it proceeds from inattention to diet, either in respect to kind or quantity, or both ; and that whatever medicinal means are proposed for its removal, will prove ineffectual, without enjoining an exact conformity to rule.

There are some things which, in very small quantities, seldom fail to produce the sick head-ach in some constitutions. Such are a larger proportion than usual of melted butter, fat meats, and spices, especially common black pepper. Meat pies often contain all these things united, and are as fertile a cause of this complaint as any thing I know ; so are rich baked puddings, and every thing of a similar nature. A little error in these things will seldom fail to be attended with much suffering, in many constitutions. Indeed, as the disorder comes on mostly towards morning, the generality of patients are led to consider it as a thing impossible, that they should suffer so long after a meal ; it is nevertheless true, and ought to be strictly inquired into, and the conduct of the sick regulated in this respect, or medicine is exhibited in vain.

That strong liquors will produce similar distresses to those who are not accustomed to them, is but too well known, and has been too generally experienced. Most kinds of malt liquor, taken too liberally, seldom fail to have this effect in particular constitutions, perhaps from the quantity of hops ; for most bitters seem rather to increase than lessen the complaint.

It is not, however, the kind of diet alone that will produce this disorder ; repeated errors in quantity will produce the like effects. Bile, if very acid, will prove a *stimulus* sufficiently strong, in many cases, to excite this sick head-ach in a violent degree. There are habits in which the bile, if exceeding in point of activity, either from its bitter or its acid quality, will act as a purgative, sometimes with pain, sometimes without, according to the nature of different habits. Such constitutions rarely are affected with the disease I am describing ; even those who have suffered its most violent attacks are free from it altogether, when a disposition to purging takes place of habitual costiveness ; and on the contrary.

From these considerations it is therefore evident, that as the quality of the bile, in a great measure, depends on the quality of the food, regard being
had,

had, at the same time, to quantity: and that the disease we are treating of appears to arise from this cause, it is necessary to point out, as experience may direct, what kinds of aliment are most likely to add to the disease, in order that the patients who consult us, may be instructed to avoid the causes of so distressing a complaint, as well as directed to such a course of medicine, as may contribute to assist them in the recovery of their usual healths, provided they resolutely submit to the regulations proposed to them.

To obtain pretty speedy relief will not be difficult. An emetic, or mild cathartic—an anodyne, soon, for the most part, restore them to their usual health; to undergo the same conflict in a few days, perhaps, or a month or two, just as the cause of the disease is accumulated; and in this manner I have known many persons spend a great part of their lives. Wearied, perhaps, with ineffectual endeavours, they, at length, give up all hopes of getting rid of their malady, and think patience must be their only cure.

Many such I have met with, and so, I doubt not, have most other practitioners; and have not often been disappointed in relieving them by the following process:

If they are disposed to costiveness, which is generally the case, some easy laxative is directed to keep the belly gently open, varying the form and substance, as the particular circumstances may require:—where acid bile abounds, the bitter and absorbent laxatives; where the bitter, saline generally are useful.

In the former case, it will be requisite to give small doses of stomach bitters, joined with a little alkaline salt, or a chalybeate, as the case requires, once or twice a day: in the latter, mineral or vegetable acids, and a diet of the same nature. Soap and *pil. ruf.* or magnesia and rhubarb, in small doses, daily continued, will often prove, in cases of acid bile, very useful remedies; and so will a solution of aloes in lime-water in the following manner*.

But whatever process the physician's judgment leads him to pursue, there is one object, that will deserve his attention, and will require the patient's. This disease is not the effect of any sudden accidental cause; it is the effect of reiterated errors in diet, or in conduct, which, by weakening the organs of digestion, and otherwise disordering the animal functions, have affected the

* R Aloes Soccotrin. ʒj.

Rad. Rhabarb.

— Glycyrrhiz. incis. aa ʒss.

Infunde in Aq. Calc. ʒviij.

Colaturæ, adde

Sp. Lavend. C. ʒss.

M. Capiat Cochl. j. ij. aut iij. pro re natâ.

secretions

secretions of their juices, and perhaps the organs themselves, in such a manner, as to require a steady perseverance in the use of such medicines, as experience has suggested are most likely to restore them to full health.

This change cannot be effected speedily; it requires a patient observance of proper regimen, in respect both to medicine and diet. The former ought, therefore, to be so contrived, as to be taken without disgust for several weeks together, and to be repeated at proper distances, till the end is obtained, digestion rightly performed, and the bile secreted and discharged as health requires; by which means, all that train of evils, which are the consequences of its detention and distempered state, will be gradually removed.

The benefits resulting, in many cases, from the use of the mineral waters, when drunk in proper quantity, and for a proper length of time, are undoubted proofs of the utility of perseverance in the use of such medicines as may appear, at first sight, of no great efficacy, yet, if well directed, and steadily pursued, will, at length, obtain the most substantial advantages.

There is another part of our assistance, which is not less necessary, in this case, than medicine, to a perfect recovery, which, perhaps, is too often disregarded both by the patient and physician; and if I have sometimes succeeded in removing many complaints of this nature, where very judicious prescriptions had been used in vain, it has been by entering more minutely into that part of prescription, which depended on the patient's own conduct, than by the use of medicines of greater efficacy than those which had been prescribed by others.

We are, perhaps, too ready, in chronic cases, where digestion is concerned, to confide in the *materia medica*, and judge it sufficient to select and enjoin such articles in our prescriptions, as are of known use in such cases. But unless the whole plan of diet, both in kind and quantity, are made to conspire with medical prescription, the benefits arising from this are hourly annihilated by neglect or indulgence.

It is not solely with a view to the cure of this sick head-ach, of which I have been treating, that I wish to offer some general reflections on the dietetic part of medicine, and to point out the necessary restrictions, in order to its cure; but likewise, as they may be of some importance in the management of many other chronic and anomalous diseases, as well as for the preservation of health in general.

Nothing is of so much consequence to invalids, and the more delicate of both sexes, as attention to quantity.—There are many people, who seem to be possessed of such powers of digestion, as to be under no restraints on that account, and who never feel themselves incommoded, either with quantity, or the most heterogeneous qualities of their food. They rise from the most

plentiful mixed and rich repasts, without any kind of apparent uneasiness. But this is not the case with the generality—they are affected with uneasiness, some in one way, some another, by the unnatural load. And how often do we hear such complaining of the ill effects of this or that particular kind of diet, when perhaps their sufferings arise from the quantity of all, rather than the disagreement of any.

It demands attention to observe that just medium, and no less resolution to keep to it, which the stomach invariably points out in respect to quantity. The *how much* must be determined by every individual; and those who are happy enough to abstain at the first sensation of satiety, have made great progress in the art of maintaining such a command of appetite, as, under most chronic indispositions, is one of the greatest aids of recovery; and in health, is one of the surest preservatives against them.

It is a doctrine, however trite and familiar, which cannot be too strongly inculcated; as a neglect of this attention to the *quantity* of food proportioned to the necessity of each individual, is sooner or later followed with the most serious consequences. To the strong and robust inflammatory diseases happen, and all such as proceed from plenitude and acrimony combined, as the gout, and many other chronic indispositions. To the more tender and delicate, it is the parent of a numerous progeny of distempers, affecting both body and mind; there is scarcely a malady that can be named, which either does not originate from this neglect of diet, or is not increased by it, till the disease at length bids defiance, even to temperance itself, and all prescription.

What renders this attention, to invalids of this order, still the more necessary is, that they are often subject to a false appetite, to a craving that does not arise from the demands of health, but from the morbid picquancy of the juices in the stomach, which prompts them to eat more, and more frequently than nature requires. Whence it happens that such people are often disposed to take in much more than can be digested, to devour their food, rather than eat it; by which means their sufferings are increased; the disease gains ground, defeats every purpose of the physician, and leads them into some permanent and incurable malady.

And should the patients have admitted an opinion (and such an opinion occurs but too often) that their recovery will be aided by taking in a greater share of food, their misfortune is complete. These are not ideal traits in the history of the sick; they are known to be but too true by every physician of observation; and they cannot be mentioned too often, or with too much fervency, for the sake of those who are liable to become the victims of appetite or inattention.

Early habits of self-command are of the utmost benefit to all; and even
those

those who do not feel any immediate distress from the utmost repletion at present, would find it their interest to be moderate and discreet.

The customs of countries, in respect to meals, are different. Breakfast, dinner, and supper have been, in this country, habitual. Suppers, at present, are discouraged among the affluent; and excessive ones, such as have been in use among our ancestors, very probably with good reason; yet there are some constitutions to which this practice may not be beneficial: two very moderate meals, at a suitable distance, may perhaps be digested with much more ease than one full meal, and be made more consistent with the duties of life in various situations. From observation, I am led to suspect, that when people assure us they eat no suppers, that it would be better for them if they did, than to oppress nature with a cumbrous load, that may be much more detrimental.

The general breakfast of people, from the highest to the lowest, is tea, coffee, or chocolate. I say general, because there are many exceptions; some for one reason, some for others, making choice of other substitutes, as their inclinations or opinions guide them.

To the articles I have mentioned, bread of some kind, with more or less butter and sugar, are commonly joined to make up the meal. It would take up more of your and my time than we have to spare, and make a volume of no small size, to enter into a minute consideration of these affairs. We are often asked, and not improperly, what our opinion is of these articles respectively, in respect to their being more or less wholesome? Perhaps the most pertinent answer in common would be, that which is reported of the late Dr. Mandeville, of famous memory, who being often the convivial guest, I think it was of one of the first Earls of Macclesfield, was frequently interrogated on the subject of diet: Doctor, is this wholesome? Does your Lordship like it? Yes. Does it agree with your Lordship? Yes. Why then it is wholesome.

Perhaps this is the best direction that can be given, provided we can caution the enquirer against the *too much*.

From many incontestable proofs, that butter in considerable quantities is injurious, it is less used in many families. It is found, by many, to be very difficult of digestion, especially when toasted before the fire, or fried, as well as in sauces. Many people, apparently robust, and whose organs of digestion are strong, often find themselves much disordered by large quantities of butter. Nothing more speedily and effectually gives the sick head-ach, and sometimes within a very few hours. After breakfast, if much toast and butter has been used, it begins with a singular kind of glimmering in the sight; objects swiftly changing their apparent position, surrounded with luminous angles, like those

of a fortification. Giddiness comes on, head-ach, and sickness. An emetic, and warm water, soon wash off the offending matter, and remove these disorders. These are circumstances that often happen to people who are inattentive to the quantity of butter they eat at breakfast; and which are very often attempted to be cured by very different remedies, and improper ones. A sudden giddiness, let it arise from what cause it may (and it arises oftener, I believe, from some disorder in the stomach, than from all other causes put together) is a sufficient motive to call the surgeon; who must have a large share of disinterestedness and skill, not to be compelled to bleed the patient, sometimes under circumstances that do not admit of it with impunity.

A moderate quantity of fresh butter, with bread exposed as little to the fire as possible, or not at all, but used cold, appears to me to be wholesome; it is capable of becoming, with the other aliments, as soft and inoffensive chyle, perhaps, as any part of diet.

The same thing may, perhaps, be said of coffee as of tea; the heat, the strength, and the quantity, make it unwholesome or otherwise. There are nations who almost live upon it, as others do on tea; amongst neither do we meet with diseases, that can justly be ascribed to these ingredients in the common course of living.

Chocolate may seem to require more consideration. It is, as we all know, the fruit of a tree growing in the West Indies, ground into a paste, with other ingredients, and serves as repast to multitudes of people of all conditions. It has not been observed, I believe, that those who, in this manner, make chocolate a part of their food, are subject to any particular distempers. It may be considered therefore as a wholesome kind of breakfast to those who like it, and with whom it agrees. It is of an unctuous nature, therefore little or no butter should be used with it. Were it commonly made thinner than is the general practice, and a large proportion of milk added, it would seem to be much more proper for common use, than as it is generally served up at present.

To all these sugar is for the most part a necessary addition: and, perhaps, much depends on the quantity of this addition, whether they are to be styled wholesome or otherwise. Nothing is more common than to hear persons complaining of the heart-burn after breakfast, ascribing it to the tea, or the other articles they have been drinking. The liquors themselves have no share, or very little, in producing this complaint. It arises from the bread, the butter, the sugar, in conjunction; and is a proof that more of some of these, or all of them together, have been taken than the stomach could digest: and this circumstance ought to be a standing monitor against excess in quantity, even of things deemed the most inoffensive.

Coffee,

Coffee, perhaps, is an exception to what was said above, that the liquors themselves have little or no share in producing the heart-burn. Coffee made sweet seldom fails to produce it; and it would be right to use as little sugar with it as possible.

The effects of improper conduct in respect to those things which now constitute our breakfasts, are of little consequence, compared with those which arise from the well-covered table at noon. The indulgences of breakfast supply but very few materials for destruction. The repeated excesses at dinner are serious affairs. It has been thought that more people suffered by hard drinking, than immoderate eating. My observation leads me to take the opposite side. At present, indeed, the former practice is generally banished to the vulgar; but whilst it prevailed to the utmost, it seems to me that more were injured by excess of diet, than of drinking. But leaving this to other enquirers, I haste to a few observations on a subject very interesting to the generality of mankind.

Though I think the quantity of food is a matter principally to be regarded, yet the quality is not a matter of indifference. I am not to be ranked among the robust and athletic; perhaps I am a good deal below the middle point of general strength.

It was necessary for me to observe some management in respect to my own health, and to attend to the *juvantia* and *ledentia*, yet without adopting it as a rule, that others ought to live as I found was most consistent with my strength and ability. A great part of my life has been spent amongst the infirm and invalid: it was easy, it was necessary to observe what kind of diet, what kind of conduct was proper to be attended to by the generality. From this source I have endeavoured to draw instruction; and for the benefit of such, these reflections are offered.

If we look into the history of mankind inhabiting the different parts of the globe, so far as we are acquainted with it, we shall find that different nations subsist on kinds of diet very different from each other; yet all enjoy a degree of health that is competent to their duties in life in the countries they inhabit. A great part of the Eastern world is principally subsisted by rice and vegetables. Many countries live upon fish; others on a mixed-diet, partly animal, partly vegetable. Some have no fermented liquors, others use none else; yet all, compared with each other in the same community, are healthy. The Author of Nature has so formed us, and constructed the organs of digestion, that we can gradually accommodate ourselves to every species of aliment;—live on rice, on vegetables, on animal food solely, or mixed with vegetables, without suffering injury. No *kind* of food hurts us; we are capable of being accustomed to every thing; but this is not the case in regard to quantity.
Nature,

Nature, by degrees, may be accustomed to subdue and change into nutriment almost every part of the creation that is produced; but to quantity she yields: if there is not sufficient, decay ensues; if too much is used, fatal oppression.

One of the first articles of diet I shall mention, is bread; and that only to say, that to digest it properly, if taken in considerable quantities, very strong organs are requisite. The husbandman and labourer find no difficulties in this respect; but to many others, this is not the case. In weak stomachs, a large proportion of bread is indigestible; it turns sour, produces the heart-burn, flatulencies, and interrupts the perfect concoction of every thing else. This is not owing to any supposed adulteration in common (nor do I believe bread is adulterated to such a degree as many apprehend) but to its own nature, which requires organs of a certain strength, to assimilate it properly; and if not so assimilated, it happens, as in many other cases, the corruption of what is good makes it the worst of all others.

On this principle, I have endeavoured to inculcate the necessity of paying much attention to this capital article of diet, to valetudinaries in general; never to abstain from it wholly, but to use it with moderation; to consider it as one of those things which, sparingly used, was extremely necessary and beneficial; if otherwise, the fruitful source of many complaints, which were little suspected to arise from this cause.

In this country animal food, of one kind or another, constitutes the chief part of our nourishment. That there are some kinds of more easy, some of harder digestion than others, is well known to every body. Yet I am inclined to think, there is scarcely any part of animal diet in use, that would not occasionally be made to agree, that is, to be digested without much difficulty, if we were full as anxious in respect to excess of quantity, as to the unsuitableness of the kind; at least this opinion corresponds with my own observation and experience. If a person eats as much of ham, salted beef, or bacon, as he ought to do of fish or of chicken, he may suffer by it.

The article of puddings, on an English table, is an affair of consequence. After a plentiful dinner of animal food, rich sweet puddings, deserts, or even fruit, seem a very unnatural and improper addition; more especially if the puddings are baked: for a little butter, long exposed to the heat of an oven, becomes, oftentimes, a cause of much suffering.

Of vegetables it will be necessary to say something. The rule in general is, to appeal to what best agrees, in this respect, with each particular constitution. I have only one short caution to give on this head.—Those who think it necessary to pay any attention to their health at table, should take care that the quantity of bread, and of meat, and of puddings, and of greens, should

not

not compose each of them a meal, as if some were only thrown in to make weight; but carefully to observe, that the sum of all together do not exceed due bounds, or inroach upon the first feelings of satiety.

In respect to fruit, I apprehend it is a most injurious practice to eat it, as is generally done, after a plentiful meal. There are some people who may be happy enough not to feel themselves incommoded by any quantity they can take; but this is not the case with the generality, to whom I appeal for the proof of this assertion.

Fruit was given us for use, as well as pleasure; to contribute to our health, not to hurt it. The forenoon seems, of all others, the most suitable season, unless it is taken instead of a meal. This I believe is the custom in many parts of the world, and seems most consistent with health and right reason. This, and another custom which I believe prevails in France, I should be glad to see introduced into England more generally, for some families have long been in the practice of it; which is, to drink what may be necessary, what health or inclination requires, during the repast, and then to dismiss the bottle entirely.

It might seem not improper, in this place, to mention my opinion of the different kinds of liquors, respecting their comparative advantages; but this might likewise demand a volume. It must be left at last to the experience of the individual.

The lesser quantity of fermented liquors we accustom ourselves to, the better.

To abstain from spirits of every kind, however diluted, as much as may be.

Where mild, well-brewed beer agrees, to keep to it, as beverage.

Where water does not disagree, to value the privilege, and continue it.

In respect to wine, custom, for the most part, will decide. The less the excess in quantity, the more consistent with health and long life.

Punch is a favourite with many;—if weak, in hot bilious constitutions, when naturally so, or which become such by a long residence in warm climates, it seems not to be an unwholesome composition. Like what has been said of diet in general, so likewise it may be added in respect to liquors: it is the quantity, in common, that does more harm than the kind; and people, especially in the fore-part of life, cannot be too solicitous to shun the first temptations to the love of spirituous liquors.

There is another repast which, since the introduction of tea, is become a kind of necessary of life, and as much expected in every family as the other usual meals themselves. It may not, perhaps, be wholly improper to suggest some considerations respecting the use of tea and coffee after dinner. If we may judge from various circumstances, from the time of dinner, digestion is performing during the course of several hours. This operation requires labour

and time in performing it, more or less, in proportion to the quantity of food taken in, and the powers of digestion. Much food taken into a weak stomach, requires a greater length of time, if it is digested at all, than where less has been received.

Whilst that power, which we call nature, is performing this task, a second meal is added, which, though of a lighter quality, adds to the quantity, and as it must be assimilated to the chyle now forming, is an additional burthen. To the robust this may appear trifling, it is not felt; but to those who may be said to be barely not valetudinary, it is a matter of some consequence.

It is thought by many, that tea assists digestion, by the additional stimulus of its quantity; it may excite the stomach and duodenum to pass the digesting food sooner than they otherwise would have done, and sooner than the chyle is properly elaborated;—it may perhaps assist in carrying off flatulency, and the food together. This, at least, is my opinion of it; and I therefore think the subjects of whom I have been speaking, ought to drink either tea or coffee with great moderation; never to make it sweet, coffee especially; and to eat with it as seldom as possible. For either sweet cakes, cakes of any kind, or butter in any proportion, rather retard digestion than promote it. The only proper time to drink either tea or coffee, or any such beverage, with safety or advantage, is to take it as soon after dinner as possible, and instead of sitting down to the bottle. This is one of those customs, which perhaps might be adopted by us, with fewer disadvantages than many of the fashions we receive from our neighbours. As on the due performance of digestion depends much of our health, ease, and prospect of longevity; so we ought most studiously to avoid every thing that has a probable chance of interrupting it.

I have provisionally recommended suppers to the objects of these remarks; as thinking that nature can effect that easily at twice, which at once would cause some degree of distress. I have had occasion to remark to you, that the robust are not perfectly secure from the dangerous effects of a full meal. Apoplexies, perhaps, proceed more frequently from this cause, than all the rest put together. If persons feel no injury from eating twice a day, neither from a meal sufficient to serve the purposes of health taken at once, let them persevere in the practice. Experience, cautiously attended to, is most certainly the best guide. From one cause or another, the practice appears to increase, of abstaining from suppers entirely, and is rather to be encouraged in the general. For those who have but little command over themselves at dinner, ought not to have the farther temptation to exceed what is right at a second meal. Where discretion prevails, and especially in persons of business where attention is required, the plan I have proposed would seem more proper, to divide the meals; especially such whose occupations require the full and immediate exercise of every faculty.

To

To describe in detail what would be proper for the purpose, belongs not to this place. I will only mention, that the less it is in quantity, and the lighter in kind, the better. Many of the persons I have described, will not bear liquid suppers so well as solids. Indeed the volume hurts them as much as any thing. Broth, gruel, panada, and the like, seldom are easy to them, and seem to disagree, by becoming flatulent and oppressive.

I will detain you no longer than to mention a circumstance in which I am concerned, and which one day or other may possibly be your fate; and I trust you will therefore allow me to expose a Bookseller's imposition.

I would observe, that several years ago, a pamphlet was published under the title of *Rules for the Preservation of Health*, &c.; it consists of parts taken from Dr. Mackenzie's *Rules of Health*, and extracts from several other Authors: it was the produce of an eminent Bookseller's son, who being in want of a little ready cash, threw these together, and published them under a name as near like mine as he dared to do *, and which has been tortured since into as many likenesses as the change of a few letters would allow him. Many people have purchased it, under an opinion that it was mine; and against this imposition I wish to enter a caveat, where I believe it will remain, as long as any books in our profession are read. Having informed the Public oftener than once of its spurious origin—the title has been reprinted, and the name varied every time. As you, Gentlemen, are all of you liable to a similar treatment, you must make my case your own; and permit me to declare, that the tract in question is a barefaced imposition.

* The Title-page now before me is—"Rules for the Preservation of Health; being the Result of many Years Practice. By J. FORTHERGELL. The Sixth Edition, with the following Additions:

" I. Above Two Hundred of the most approved Receipts for all Disorders incident to Mankind.

" II. Dr. Jurin's Account of the Effect of Soap Lye, taken inwardly, for the Stone.

" III. The History of Mrs. Stephens's Medicines, and her Original Receipt for the Cure of the Stone.

" IV. The present new Method of Inoculation, the Small Pox," [of] omitted,—“and also in the Natural Way.”

The Title-page is here given at full length, as it may assist the Public in guarding against the imposture. I have seen the fourteenth edition of the Title-page. Sometimes my name is printed as above, sometimes S. FOTHERGILL; sometimes M. D. is added; with many other variations, none of them exactly corresponding to the name and designation, yet all of them retaining such a similitude, as to impose upon the inattentive part of the Public.

O B S E R V A T I O N S

ON THE

Cure of FLUXES, by small Doses of IPECACUANHA.

Read, August 21, 1780*.

TO the MEDICAL SOCIETY in LONDON.

IF the following remarks on the use of ipecacuanha, in the cure of diarrhoeas, appear to you not improper to make a part of your next volume, they are wholly at your disposal. It may seem to be an unnecessary business to say more on this subject, than has already been offered by others; but as I think I have observed this medicine, as well as rhubarb, to be used in these cases sometimes improperly, I thought it might be doing some service to the young practitioner, to point out the means by which he might best avail himself of these useful auxiliaries. I am,

With much deference and respect,

Your friend and colleague,

J. FOTHERGILL.

Lea Hall, 1780.

IT is not intended to describe the different kinds of fluxes that occur in practice, in which the ipecacuanha may be used with advantage. An habitual diarrhoea, depending on some irritating acrimony of the juices, accompanied with great weakness and irritability of the bowels (whatever may have given rise

* Medical Observations and Inquiries, vol. vi. p. 186.

to such a state of both) seems to be the proper object of such a treatment as I mean to propose, and which has succeeded in a variety of cases, which have obstinately withstood the efficacy of very opposite remedies. We meet with persons of both sexes, and different ages, who, from a variety of causes, have long been subject to habitual diarrhœas; sometimes accompanied with sickness, bitter taste, furred tongue, and some degree of fever; and sometimes without these symptoms, yet both subject to frequent discharges, often in the morning, sometimes in the night, and generally after taking any quantity of aliment, whether liquid or solid. It is not always that the stools are accompanied with pain; but their frequency and continuance exhaust the strength, and emaciate the habit.

If the viscera are not injured in their structure, and become unable to perform their functions, much benefit may often be found from the following process:

Let a grain, one and an half, or two, of Ipecac. be given in Aq. Alexit. simp. or any other vehicle, in bed, in a morning.—This will sometimes act as an emetic, and bring up bile; sometimes it proves cathartic, and gives a few motions downwards extraordinary. In either case, a small basin of thin gruel may be taken, gently to promote its operation.

At night an anodyne should be given, if there be nothing to forbid it; rather a warm and cordial one, than a simple anodyne. Confect. Damocrat. Theriac. Androm. or Philonium, as the case may seem to require.

By this means an undisturbed night is generally obtained, at least the dose of the anodyne ought to be such as to ensure it. The ipecacuanha may be repeated or omitted the next morning, according to its operation the preceding day. If vehement, either upwards or downwards, omit it till the morning following; but repeat the anodyne at bed-time.

It most commonly happens, that a very few doses of these medicines, with proper attention to regimen, gradually restrain these discharges. And the same process, at longer intervals between the doses of ipecacuanha, generally put a stop to them, both safely and effectually.

I have seen the like doses of ipecacuanha given every six hours, in some such cases; five, six, or seven grains in others; the vitrum antimonii cerat. in others;—and what has been the consequence? An increase of that very disorder which they were intended to cure; as might justly have been expected, had the prescribers allowed themselves time to reflect. There was not sufficient time allowed for the medicines to have their due effect, and no more. They excited a constant disposition to purging, which made it difficult to determine how much proceeded from the medicine, how much from the disease. Ipecacuanha given thus, in small doses, evacuates gently, and without weakening.—If the stomach is loaded with impurities, they are brought up; if the intestines, it
acts.

acts as a gentle purgative.—But these seem not to be the whole of its efficacy; it acts as a diaphoretic; it promotes the discharge of the perspirable matter, by those emunctories, through which it ought to pass; and lessens, by this means, the quantity of acrimonious fluid tending unnaturally to the intestines; a constant aggravation, if not the most frequent cause, of such maladies; as we seldom find that either the milder or more malignant fluxes are effectually cured, till the skin becomes soft, and a free perspiration is restored.

In respect to regimen, one injunction will be found essential:—That is, to have strict regard to *quantity*: for let the diet be never so wisely appropriated, if the quantity is considerable, it will be in hazard, by its bulk, or its weight, of acting as a stimulant; in another word, as a purgative: if animal food be allowed, enjoin the patient, as much as possible, to confine himself, for a certain time, to one kind only. I have known instances where this attention alone has effected a perfect cure. Mutton, perhaps, is as suitable a diet as any other; and some persons have dined on mutton only for a month together, much to their benefit.

It is scarcely necessary to suggest, that some gentle tonics may be necessary to establish general health; the bark, or chalybeates, as the circumstances may require. One caution may, however, be of use: let the doses be small, and continued the longer. The intestines being left, by the purging, in a very tender and irritable state, will seldom bear, what might, in other respects, be deemed only a competent dose. Besides, the patients will often be induced to comply with rules of diet and conduct with tolerable exactness, whilst they are taking medicine, in hopes of giving it greater effect; but are too prone to forget regimen, however necessary, the moment they are released from medicine.

J. F.

[Dr.

[Dr. FOTHERGILL having drawn up a Sketch of the epidemic disease which appeared at London, and in various parts of the nation, towards the end of the year 1775, and having sent printed copies thereof to several physicians, both in town and the country, in order to obtain a more complete history of the disease; this Sketch, and also the Communications of several of his ingenious Correspondents on the same subject, are here inserted, being thought well worthy a place in this Collection *.]

A
S K E T C H
O F T H E
E P I D E M I C D I S E A S E,
Which appeared in LONDON towards the End of the Year 1775.

1. **A**BOUT the beginning of the last month, it was mentioned to me in many families, that most of the servants were sick; that they had colds, coughs, fore-throats, and various other complaints.

2. In the space of a week these complaints became more general; few servants escaped them, especially the men, who were most abroad; many of the other sex, likewise, and people of higher conditions, were attacked: nor were children exempted.

3. The disease, which had hitherto been either left entirely to itself, or had been treated with the usual domestic medicines appropriated to colds, now claimed the attention of the Faculty, and, for the space of near three weeks, kept them for the most part universally employed.

* Medical Observations and Inquiries, vol. vi. p. 340.

4. Most of those whom I saw, were seized (and often so suddenly as to be sensible of the attack) with a swimming or slight pain in the head, a soreness of the throat, and all over the body, with a sense of coldness, particularly in the extremities. A cough soon followed, a running of the nose, watery eyes, slight nausea, frequent calls to make water, and some were seized with a diarrhoea.

5. More or less of feverish heat, inquietude, pain about the breast, præcordia, and in the limbs, soon succeeded, but in various degrees. Many were capable of continuing in their usual occupations under these symptoms; others were obliged to submit to confinement; and not a few to their beds.

6. The tongue was always moist; the skin seldom remarkably hot or dry; the pulse often full, quick, and harder than one would have expected from such a temperature of the skin.

7. Several were seized with a diarrhoea: the stools were always black, or of a deep yellow colour; and so were those, for the most part, which were procured by purgative medicines.

8. In a few days every complaint abated, except the cough; this continued the longest of all the symptoms, and, in the fore part of the night, was exceedingly troublesome and vexatious; towards morning generally came on a sweat and easy expectoration.

9. Those who were seized at first with very copious defluxions from the nose and the fauces; or had a plentiful and spontaneous discharge of black bilious stools; or made large quantities of a high-coloured urine; or sweated profusely of their own accord, a night or two after the seizure, soonest grew well.

10. In many cases it was necessary to take away some blood, the condition of the pulse and vehemence of the cough requiring it. The blood was almost uniformly slyzy, representing a flat cake of yellowish tallow, floating in a deep yellow serum. Very few instances occurred where the size formed that cup-like appearance which occurs in most of the genuine inflammatory disorders.

11. By warmth, diluting, cooling liquids, mild diaphoretics, gentle and repeated purgatives, the disease for the most part soon gave way, in subjects otherwise healthy. Sometimes it was necessary to repeat the bleeding; sometimes blisters became necessary, and were serviceable in abating the cough, which was the last of all the symptoms that gave way: after the proper evacuations, anodynes for the most part had very salutary effects.

12. In many instances the disease assumed the type of an intermittent towards its decline: the bark however did not generally succeed in curing it. The symptoms, as often happens in bilious disorders, were sometimes aggravated by this medicine. A few doses of some mild cathartic most commonly removed it effectually.

13. Many

13. Many who neglected themselves, and went abroad with the distemper upon them, frequently got additional colds, and brought on a fever of the most dangerous kind; a few died phrenetic.

14. Ancient, asthmatic persons, were likewise great sufferers for the most part: a peripneumonic fever came gradually on, which often terminated fatally. And of those who did recover, their amendment was slow, and treatment difficult.

15. And indeed it appeared that very few persons wholly escaped the influence of this morbid constitution: for it seemed to aggravate every present malady.

16. It proved fatal likewise to several very young children, disposing them to violent coughs or diarrhœas.

17. Perhaps, however, there is scarcely an instance to be met with, of any epidemic disease in this city, where so many persons were seized, and in so short a time; and with so little comparative mortality.

18. Though attempts to ascertain the causes of epidemics are, for the most part, more specious than substantial, it may not be improper to mention a few facts that gained my attention; to others many more may have occurred, and worthy to be recorded. During the greatest part of the summer, in that part of the country where I then was (Cheshire) the air was of the most equal temperature I ever knew. In the space of two months the quicksilver in the thermometer once rose to 68, once fell to 56; but for six weeks together it kept between 60 and 66 continually, day and night.

19. The barometer did not vary much more. The weather was, during this time, very changeable, much inclining to wet; and, though it rained more or less almost every other day for six weeks, yet upon the whole no unusual quantity of rain fell: it sunk into the ground as it fell, and made the earth very soft and miry; but seldom swelled the brooks, or occasioned floods.

20. During this time, horses and dogs were much affected; those especially that were well kept. The horses had severe coughs, were hot, forbore eating, and were long in recovering. Not many of them died, that I heard of; but several dogs.

21. To the consideration of the Faculty in this city, is this Sketch of the late Epidemic submitted, with all due deference; and with a request, that if the observations they have made do not correspond with this recital, they will be pleased to communicate their remarks while the remembrance of the facts are recent; in order that as exact an account of this disease as possible may be transmitted to our successors.

22. If those Physicians in the country, into whose hands this Essay may come, will be so obliging as to mention the time when this Epidemic made

618 *Of the Epidemic Disease which appeared in London in 1775.*

its appearance in their neighbourhood, and wherein it differed from the preceding Sketch, either in the symptoms or the method of cure, they will likewise contribute to the same good purpose. The united observations of the Faculty at large must greatly exceed the utmost efforts of any individual, however warmly he may be disposed to promote the utility of his profession.

JOHN FOTHERGILL.

London,
6th Dec. 1775.

O B S E R-

O B S E R V A T I O N S

FROM

VARIOUS CORRESPONDENTS.

Sir JOHN PRINGLE, *Bart.*

4*. THE species that I had of the influenza was a sore throat, with fever and shooting pains through the back part of my head; but these symptoms were never followed by a cough. I heard of several others who, like me, had never been troubled with a cough, and only with this inflammatory angina.

18. I think you do well to record the state of the weather; but I think the conclusion ought to be, that the sensible qualities of the air had most probably no share in producing this Epidemic, I should be tempted to say, that they had evidently no part; for we hear of the same distemper having been in Italy, France, and in the Low Countries; and, I doubt not, in other parts of Europe, had we inquired. But it cannot be supposed that the state of the atmosphere, either as to weight, heat, or moisture, was the same every where. And in the same country have we not seen it rage in one district, or city, whilst others, at no great distance, were totally free? Yet between the sound and the sickly there could be no considerable meteorological difference. My conclusion, therefore, should be, that such Epidemics (of which there have been four in my remembrance) do not depend on any principles we are yet acquainted with, but upon some others, to be investigated, and by such means as Dr. Fothergill very properly and most commendably proposes to be done by the united inquiries of his brethren.

* The numbers refer to those in the preceding Sketch.

Dr. H E B E R D E N.

Dec. 16, 1775.

THE 28th of October was the first day on which the late epidemic cold seized upon any one whom I had an opportunity of observing; and, at the end of three weeks the cause, whatever it was, of this distemper was so far weakened, as to be incapable of infecting those who had escaped it until that time; though many, who had suffered by it before, continued to complain of the cough and hoarseness much longer. The violence of this distemper usually began to abate in five or six days.

In some it began with a sickness and perpetual vomiting, which were the forerunners of a severe degree of this illness; in others the first symptoms were sneezing, and a copious defluxion from the nose and eyes, and these suffered much less, and were sooner recovered. Many complained of a hoarseness and sore throat, and of a tightness, oppression, and heat of their breasts, and of feeling pains in various parts, particularly in their heads, sides, and backs. Almost every one of these patients was afflicted with a racking cough; with a sense of coldness frequently returning upon them; with a failure of appetite and of sleep; and with a languor and weakness much greater than might have been expected from the effects of any of the other symptoms. The degree of fever was seldom great. I saw two persons in this distemper who had eruptions upon their skins resembling that of a scarlet fever. In two or three young men this disorder was increased to a dangerous height, and became a true peripneumony, attended with bloody phlegm, and manifestly requiring frequent bleedings, by which they were much relieved. Towards the middle or end of this illness a few were attacked with intolerable stitches in their sides or loins, so that for two or three days they were confined almost to the same posture, and if they were necessitated to change it, they shewed all the marks of exquisite pain. Lighter cramps in the legs and arms were not uncommon at the going off of this malady.

I knew none who could properly be said to die of it; but it seemed to hasten the death of two or three persons, whom it found dying of age, and of other diseases.

The keeping quiet within doors, together with an abstinence from the grosser foods, and from heating liquors, was all which the generality of patients required. Small quantities of an opiate were very serviceable in allaying the incessant teasing of the cough, and in quieting the restlessness. Where the
fever,

fever, or any of the symptoms, were considerable, it appeared to me that bleeding was unquestionably useful, and lessened rather than increased the languor. In a few it was necessary, besides bleeding, to employ blisters, with the other usual remedies for inflammations of the lungs.

Sir G E O R G E B A K E R, Bart.

IT is certain that many people, both in this town and its neighbourhood, were attacked by the epidemic disease some days preceding the 20th of October. As to the precise day when I first heard of it, I cannot speak of it with accuracy.

Men, confined by their business at home, suffered much less than those who were exposed to the air; and women, in general, less than men. Very young children were not much affected by this disease. Boys at school were almost universally disordered. Girls at school (I suppose on account of their greater confinement) were remarkably free from the influence of this constitution; at least, were not so generally attacked.

Many were suddenly seized with *great* giddiness, and *intense* pain in the head; some with a considerable nausea, which sometimes continued several days. Some few had, in the beginning, successive rigours. An uncommon languor, restlessness, and anxiety, seemed to be the general characteristics of this disease.

I saw none whose first indisposition was a *diarrhœa*. Those who had a *diarrhœa*, had first complained of the common symptoms of a cold; which ceasing, a *diarrhœa* followed. This, in some, arose even to a dysentery. They had almost constant pains a little above the navel, and a very frequent evacuation of thin excrement, mixed with mucus. This was my case in particular, and that of several whom I visited, and many others, a relation of whose cases has been communicated to me.

Dr. Fothergill says, *the tongue was always white*. This seems too general an assertion: at least the contrary happened in several instances which fell under my notice.

The blood, in the beginning, was not always *fizy*; nor did I, in general, observe *the deep yellow serum* mentioned by Dr. Fothergill. Likewise *the cup-like appearance of the crassamentum* was remarkable in several cases.

In

622 *Of the Epidemic Disease which appeared in London in 1775.*

In many cases it was necessary to take away blood, even three or four times, on account of the violence of the pleuritic and peripneumonic symptoms.

Clysters, frequently injected, were of singular service.

The fever having sensibly remitted, according to my experience, the Peruvian bark was used with advantage. And likewise, when a languor and debility (as frequently happened) continued after the vehemence of the disease was subdued, this proved an useful remedy.

Many persons, even now, feel the effects of this disease; and I know several who are likely to die tabid.

Accounts received from France, Holland, and Germany, give us reason to conclude, that this Epidemic was much more fatal in other countries than in this island. And I believe it will appear that it was more fatal in several distant countries than in this metropolis and its neighbourhood.

January, 1776.

Dr. HENRY REVELL REYNOLDS.

1. MY wife had this complaint on the 23d of October, and on the 2d of November I visited several patients who had laboured under it for some days.

2. All my children had it. The order in which the symptoms appeared is as follows: watery eyes, swelling of the eye-lids, running from the nose, cough, diarrhoea; so that every part of the mucous membrane seemed to be progressively attacked. I saw two others affected in the same way.

6. In two instances I saw the tongue very dry, parched, and chopped. The patients were both corpulent women, aged between 30 and 40. At the time I was called in to them they laboured under a true peripneumony; but I learned that they were first attacked with the catarrhal symptoms. Blood drawn from both these patients, even at the third bleeding, had a very thick buff coat, and exhibited the cup-like appearance.

9. Several whom I attended had this kind of diarrhoea; but I did not find it of service to any: on the contrary, I thought it prejudicial to some, as it seemed to prevent a free expectoration, which, to my apprehension, was the most critical and most salutary evacuation. Neither did warm copious sweats, though universal, (unless they happened before the seventh day) give that relief which one might have expected from them.

II. With

11. With respect to the method of cure, mine was nearly the same as yours, and in the same order. Permit me only to mention, that I found the Kermes mineral to answer my purpose exceedingly well, both as a diaphoretic and an expectorant. After several trials I preferred it to any other preparation of antimony.

12. In those cases where the diarrhœa was troublesome I had recourse to the ipecacuanha in small doses; a grain of the powder, for instance, once in six hours; and it succeeded to my utmost wish, checking the diarrhœa, and promoting a free expectoration.

Jan. 29, 1776.

Extract of a Letter from Dr. WILLIAM CUMING to Dr. FOTHERGILL.

“ DEAR DOCTOR,

Dorchester, Dec. 25, 1775.

“ I RECEIVED your printed history of the Epidemic Disorder that has
“ been of late so generally felt, not only over all this island, but in several
“ other parts of Europe: and, probably, its influence has been far more ex-
“ tensive. I honour you highly for your exerting yourself in this manner, to
“ obtain as accurate an account as possible of this disorder, and hope that
“ none will be found so perverse and malevolent as to attempt to detract from
“ your merit with your cotemporaries, or with posterity.

“ The account you have given of the state of the atmosphere, in respect of
“ *warmth* and *gravity* during the preceding autumn, is, I believe, very just,
“ as far as I can recollect. I often, during that time, examined both the
“ barometer and thermometer; but, finding the variation of the mercury
“ confined within such narrow limits, I made no minutes of its height; in-
“ deed I never now do, unless it verges towards one or other of the extremes.
“ It was otherwise in respect to the *moisture* of the air, as to which I can speak
“ with precision. The autumn in this place was very wet, as the quantity of
“ rain that fell here during the months of August, September, October, and
“ November, was exactly fourteen inches and twenty-seven hundredth parts.
“ This circumstance, joined to the mild temperature of the air, made me to
“ expect diseases of the putrid class; but in this I was happily disappointed.
“ We had here also many moist, warm, foggy days, in which no sensible
“ quantity of rain fell, when the quicksilver in the barometer stood so high as
“ 30.2.

“ After

“ After the middle of August, I have heard, from good authority, that a disorder amongst the horses prevailed very generally in Yorkshire. It has not been so general here as to become the subject of conversation. About the latter end of October, I remember to have heard that one gentleman had lost six dogs, in the usual manner that these animals are seized—a giddiness in the head, an inability to eat, with a paralytic affection of the hinder extremities.

“ From the middle of October (to which time Dr. Pulteney fixes the commencement of this disorder, when he himself was seized, though he was never confined by it) several individuals complained of colds, which were considered as accidental, and but little attended to; but it was not, I think, till after the 10th of November that the malady became general. On the 15th I first visited a patient labouring under it. The manner of seizure and the symptoms were similar here to your description of them; several complained of a heavy, dull pain in the head, and many had fixed pains in the side. The appearance of the tongue, the feel of the skin, were as you describe; and, though the pulse was generally full and quick, yet I was not sensible of that hardness in it that you mention; so that the violence of the cough, with the pains in the breast, and the difficulty of expectoration, indicated the necessity of taking off blood rather than the hardness of the pulse. The blood always had the appearance which you describe. I never once saw it cupped or purged up. In general it was necessary to draw off blood, and many times oftener than once; but I never once ordered it without the patient's being sensibly relieved by it, and the benefit was commonly felt immediately. I usually directed blisters too, on account of the pain in the head, the incessant cough, or the fixed pains in the breast; and their salutary effects were, I think, as constantly perceived.

“ Besides these, I ordered the neutral salts, pectoral linctuses, soft lubricating drinks, which, with a suitable diet, universally succeeded, for I lost none; and I have not heard of any that could properly be said to die of this disorder. The medicines and diet directed kept the bowels properly lax, for which reason I hardly ever ordered a purgative. None of my patients were seized with a diarrhoea, so that I never observed the colour of the stools; though I have since heard that several young people were attacked in this way, and had the disorder lightly. Towards the decline of the disorder, forty or fifty drops of the elix. paregor. in a draught with oxym. scill. a drachm, or a drachm and a half, taken at bed-time, abated the violence of the cough, procured rest, and occasioned a gentle moisture on the skin. In two cases which I saw, the disorder shifted to the putrid class. A gentleman's coachman was seized with the common symptoms, was bled, &c. got

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“ better,

“ better, went abroad, got well : the same complaints returned ; was blooded
“ again, was relieved, but in a few days I was sent for, when I found him
“ labouring under a great dejection of spirits, despairing of his recovery ; a
“ stupifying pain in the head, oppression of the præcordia, moderate warmth
“ of the skin, with a quick rather than low pulse, and a great general debility.
“ I had the curiosity to examine his throat, of which he did not complain,
“ when I found thin white sloughs on the uvula and tonsils. Blisters, a warm
“ regimen, and the bark, with gargles, in about ten days restored him.

“ The other was butler to a gentleman, six of whose servants I had prescribed
“ for in the reigning disorder, and who had been recovered by bleeding,
“ and the usual regimen. This man, believing himself seized with the com-
“ mon complaint, sent for the apothecary to bleed him ; but four ounces only
“ were taken off, as he was faintish. I saw him by accident next day ; the
“ blood was florid and of a weak texture ; his pulse quick and feeble : some
“ ulcers appeared on the tonsils. By the bark and a warm regimen he got
“ well in a few days. In many gentlemen’s families in this county not one
“ servant free from the disorder, in others but one or two infected. I think it
“ raged chiefly in the western and northern parts of this county. Many per-
“ sons in Dorchester complained of coughs and colds ; but a few only were
“ confined to the house.

“ You may remember that, in the spring of the year 1762, a disorder
“ somewhat similar to this, but not so general, was very frequent in most parts
“ of this kingdom ; but what corresponded with it in almost every particular,
“ was the fever and cold that appeared in the winter of the year 1732, in most
“ parts of Europe, America, and the West Indies, of which a particular account
“ is given in the second volume of the Edinburgh Medical Essays.”

Dr. THOMAS GLASS, Exeter.

IN the city of Exeter, and the country about it, colds and coughs were not more frequent than usual during the latter part of the past autumn. But from the 8th of November the number of people who were continually coughing increased so fast, that it was soon evident the Epidemical Colds, which began in London, as we were informed by the public papers more than a week before, had reached us. This disease appeared to be at its height

here from the 18th to the 24th of the same month, and attacked very few after the 4th of December; but by this time almost every one had felt more or less of its effects.

On the 11th or 12th of November it made its appearance in the Devon and Exeter Hospital, and within a week seized 173 persons, being all the servants and patients then in the house, except two children; 162 of them were coughing together. Is it not remarkable that such a number of hospital patients, afflicted with so various and different kinds of distempers, and under the operations of the most efficacious medicines of the most opposite qualities, should have been all affected, almost at the same time, and in the same manner, by the cause of these epidemical coughs?

Two or three days after the hospital had been attacked, the City Workhouse was visited by them: of near 200 poor people, who are in this house, but few escaped; all the others were complaining at the same time.

From Exeter the disease travelled towards Cornwall; about the 13th of November it arrived at Okehampton and Ashburton, and about the 15th at Plymouth. I have no certain intelligence when or where it passed from Devonshire into Cornwall; but by the 20th it had reached Truro; and, before the end of the first week in December, had spread to all parts of that county.

The constitution, productive of this Epidemic, very seldom, I believe, continued to exert its influence with much force in any place more than three weeks or a month; so that, after this time, a few only were attacked by it: and it was generally observed, that in the churches, for two Sundays following, nothing was to be heard but coughing; and that on the third Sunday this disturbance was much less. I cannot find that there is any part of these two counties but what was visited by it.

Its appearance in this city was the same as in London, except only, that it was here much more favourable, and attended with some symptoms besides those you have mentioned in your Sketch: for many of our patients, especially such as had a considerable degree of fever, complained of great lowness of spirits and sudden weakness; several of them of a perfect inappetency both to meat and drink (most of these had severe coughs without much fever) and some of them a soreness throughout the windpipe and œsophagus, with a great pain in swallowing even liquids; others of a violent pain in their ears. A few had sloughs of the malignant kind on their tonsils; swellings of these, and of the sub-maxillary glands were not unfrequent, but occurred oftener in some towns than others. One of my patients had a large parotid, which suppurated slowly, and broke at the end of three weeks. Eruptions on the lips, towards the crisis, were a common and very salutary symptom. Many felt no feverish heat, but almost all, if not all, had more or less of a cough.

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This circumstance, probably, induced Sydenham to give the name of *Tussis Epidemica* to the disease which had been called *Febris Catarrhalis Epidemica* by his predecessors, who seem to have been of opinion that a cough, without a fever, was nothing more than a symptom of a common cold. The impropriety of calling a cough, without any feverish heat, a catarrhus fever, being obvious.

Most people in this part of the kingdom, who had coughs and colds during the late epidemical constitution, took no more notice of them than they would have taken of common colds, and got well, when they were without a fever, sooner than those who, in the like circumstances, submitted to confinement. Nor needed such persons any other treatment than that which Sydenham recommended to his patients, who had epidemical coughs, but no fever, in the year 1675.

But those who appeared to be feverish, and had pains in their head, breast, back, or limbs, were advised by the Faculty in this city to confine themselves to their beds, and to drink frequently barley-water, water-gruel, linseed-tea, and other soft diluting liquors (which were sometimes sweetened with honey) very hot. Saline draughts, with spermaceti, were often prescribed; to which, if the patient felt himself low, and inclined to be faint, was added cordial confection; or, if he was not disposed to sweat freely, emetic tartar, but not enough to excite a nausea. A plentiful and easy sweat, continued for a sufficient space of time, carried off the catarrhus fever and pains on the first, second, third, or fourth day of the disease. This fever, which has been called a *Diary and Decreasing Fever*, because it either ends or begins to decline within twenty-four hours, and never exceeds the fourth day, was accounted an essential part of the Catarrhus Epidemic, and seems indeed to be an immediate effect of its cause. But the cough generally remained after the fever was subdued, until an easy expectoration of concocted matter put an end to it. The soft diluting liquors, and the medicines above-mentioned, were designed to bring on this critical expectoration, as well as to promote a sweat. And, to answer that end, paretic elixir was likewise given, if the cough was very troublesome, and the matter brought up by it crude and thin, after the fever was gone off or considerably abated.

In a certain town many persons, to whom, as soon as they applied for assistance, wine-whey with spirits of hartshorn was freely given to force out a sweat, and paretic elixir to quiet their cough, became delirious.

Sometimes a violent cough, with considerable but not inflammatory pains about the breast, seemed to require bleeding on the second or third day of the disease; but this evacuation weakened the patient, without removing his pains, or mitigating his cough in any considerable degree, and seemed to retard

his recovery. In several instances, as I am well informed, the loss of blood, at this early period of the disease, was followed, not immediately, but within a few days, by severe paroxysms, resembling those of an intermittent. And I apprehend that bleeding is then only necessary in this distemper, when it is accompanied with real inflammatory symptoms: and that purging is also improper, unless a fever, which requires this evacuation, is complicated with the catarrhus complaints; a spontaneous sweat being the natural remedy of the fever, which is most essential to them. Mercatus has very judiciously remarked, that this Epidemical Catarrhus Disease is to be treated according to the nature and disposition of the fever with which it happens to be associated; so that in some cases bleeding is necessary, in others purging; but in most a proper regimen only is required. This judgment of the Spanish physician is confirmed by the experience of our sagacious Sydenham, who cured the Stationary Fever of 1675, when it was united with the Epidemical Cough of that year, in the same manner, and with the same success, as he had done before these coughs made their appearance.

If the feverish disorder, accompanying the catarrhus complaints, continues increasing for two or three days, it is certain that another fever, besides the Diary or Decreasing Fever, is complicated with them. This adventitious fever has been most commonly found to produce either symptoms peculiar to fevers of the inflammatory kind, or those which were the distinguishing marks of the fever of the season.

Before we were visited by the late Epidemic, the atrabilious constitution, which, according to Dr. Grant's accurate observations, begins some time in October, or the beginning of November, had taken place. And on this account a plentiful discharge of black bilious stools, coming on of its own accord, or procured by gentle and repeated purging medicines, when there were pains or uneasiness in the bowels, or a distension of the belly and præcordia, with inquietude or other signs of turgid matter in the intestines, soon freed the patient from the fever of the season, and all the complaints arising from it.

But when any danger was apprehended from inflammatory complaints, which did not often happen in this part of the country, more or less blood was taken away. This was always fizy, and the size for the most part formed a cup-like appearance. We had likewise recourse to anti-phlogistic medicines, and occasionally to blisters, which more sensibly abated pleuritic pains, being applied to the part affected, than the previous bleeding.

Peripneumonic complaints, the most alarming symptom of all, were gradually carried off by a free and easy expectoration of digested matter. Such remedies were therefore administered, as have been found, by experience, to promote

promote the digestion of thick viscid humours, collected and retained in the lungs, and to facilitate their discharge.

This disease proved fatal to exceeding few in this city or country, and those who died of it were ancient persons or pulmonics. Such as these have been the principal sufferers in every epidemical catarrhus constitution, of which I have read any description. Children, both in Devonshire and Cornwall, were less subject to the Distemper than adults; their complaints, when they had taken it, were slighter, and they sooner got well. Almost all of them had watery eyes and a running nose.

From the accounts and descriptions given us by physicians of the Febris Catarrhalis Epidemica, or Tussis Epidemicæ, which, since the year 1557, have made their appearance in Europe at least a dozen times, it is sufficiently evident that they are the same disease, diversified only as the small-pox are, by the influence of the climate, the seasons of the year, and the constitution of the air.

Whilst it was the general opinion of philosophers, that all things upon earth were governed by the heavens, physicians imputed the Epidemical Catarrhus Semi-peffilential Fever, to the influence of the stars; whence the Italians gave it the name of Influenza.

Wintringham and others, who attribute this general Epidemic to moist, cold weather, coming on suddenly after a lasting, warm, dry season, seem not enough to have apprehended that it is a disease of all seasons and climates, which I think it most certainly is. For we are informed by Willis, *in cap. xvii. de Febribus*, that it visited this kingdom in April 1658; and that the whole spring and the beginning of the summer this year were uncommonly cold, and the preceding winter excessively hard. And Mercatus relates, *in lib. ii. de intern. morb. curat.* that it was raging in some part or other of Spain during the whole summer of the year 1580, and destroyed not a few. It is recorded by Fonseca, *in Disputat. de Garotillo*, that in the year 1557 it infested Asia, came from thence to Constantinople, then spread itself over all Europe, and afterwards attacked America. And by a Society of Physicians at Edinburgh, *in the second volume of their Medical Essays*, that about the middle of November 1732 it made its appearance in the northern parts of Germany, and reached Naples and Spain before the end of February 1733, having, in the mean time, over-run all Europe. That about the middle of the following October it arrived in New England, and travelled southward to Barbadoes, Jamaica, Peru, and Mexico, much at the same rate as it had done in Europe. Now these historical facts being inconsistent with the conjectures of these gentlemen, who would persuade us that this uncommon and most universal disease is produced by the same constitution of the air as that which produces our common autumnal colds and coughs—

coughs—if we believe the historians, we must necessarily conclude that this notion of the theorists is false.

Nor does this distemper seem to arise (which is, I think, at present the more general opinion) from contagion; for in this city, in the year 1729, it was conjectured that two thousand persons at least were seized with it in one night. But what is more extraordinary, before the beginning of autumn, in the year 1557, it attacked all parts of Spain at once, so that the greatest part of the people in that kingdom were seized with it almost on the same day. This very singular circumstance is related by Mercatus, who says, that it happened in his own time.

And after all the attempts that have been made to ascertain the causes of general Epidemical Diseases, not arising from the sensible qualities of the air, we seem to have as little real knowledge of them as the ancient Greek physicians had; who referred these distempers to something in the air, which is not the object of sense, but which, like the Supreme Cause of all things, only manifests its existence and power to us by its effects. This something, therefore, though different in different epidemical constitutions, was not improperly called by Hippocrates τὸ θεῖον.

I have only to add, that in this part of the country, in the month of September, many horses and dogs were severely afflicted with colds and coughs. Which circumstance, it should seem, was not merely accidental; since it has been observed, that horses were infected before men in three general epidemical constitutions that have happened in our time. And I am inclined to think, that the pestilence mentioned by Homer, which, within the space of nine days, spread itself over all the Grecian quarters, and a little while after disappeared, was an Epidemic of the same kind; because neither the true plague, nor any other epidemical disease, with whose history I am acquainted, has been known to make so rapid a progress, or to end so soon, as that pestilence did.

Dr. A S H.

Birmingham, Dec. 2, 1775.

1, 2, and 3. THE Epidemic, of which we had accounts in the public papers from London, made its appearance in this place about the middle of November; and no fresh subjects were attacked with it after the 7th or 8th of December. The period of it did not exceed a month; there was no distinction

tinction of the sexes amongst grown persons: those who were most in the air were, in general, least affected: few children diseased.

4, 5, 6, and 7. In the town many were suddenly seized, especially in the morning early, with universal rigours, and pains in the limbs and back part of the head, a roughness rather than soreness in the throat, great lassitude and dejection of spirits, great oppression on the præcordia, and some few with pleuritic pains. Many complained of a nausea, and an inclination to vomit. The tongue was generally moist in the beginning, with a whiteness and sometimes a darker crust toward the back part of it. The skin was seldom hot or dry, and the general temperature of the habit moderate. The appetite, except in the subjects who complained of nausea, was not much affected; but the patients in general complained of a total loss of a distinction of taste of one kind of food from another. The cough was incessant, especially on lying down in bed. In no patient, whom I attended, was there any hardness or tension in the pulse: and it never appeared necessary to take any blood away. In some few who had been blooded, on account of an hæmorrhage from the nose, through the violence of the cough, the blood appeared florid, and of a tender texture; the urine was secreted generally in small quantities, and, of course, high-coloured: the state of the bowels uncertain. Where a tendency to a diarrhœa came on, it generally removed the disease; and where a want of stools indicated an aperient in the beginning of the disease, it had in general the same happy effects.

8, 9, 10, 11, and 12. An early attention to administer and repeat some mild cathartics, with diluting cooling liquors and mild diaphoretics, soon brought on an easy expectoration, and removed all the other symptoms, except the cough, which generally continued, in some degree, ten or twelve days, but was much relieved by small doses of anodynes. The aged and diseased patients, especially asthmatics, suffered most, and to some few it proved fatal. In the progress of the disease, when not immediately relieved by the first intentions, many difficult and perplexing symptoms arose that were not easily removed, and often appeared alarming. Gentle and repeated purgatives were of the most certain use; and, if not early administered, or neglected to be repeated, an obstinate costiveness sometimes came on, that was to be relieved only by clysters frequently repeated; and, in one case, all efforts of that kind were ineffectual; and, although the heat was moderate the whole time, the disease proved fatal, and terminated in a mortification of the bowels.

In these aggravated symptoms of the disorder the nights were in general disquiet; the cough continued violent, although the expectoration was plentiful; and the head was affected. Blisters were generally of good effect, and fomentations and sinapisms to the feet gave great relief. The disease was par-

particularly

ticularly troublesome to women in the latter part of their pregnancy. A healthy young woman, very near her time, was seized with this disease: the symptoms were more violent than common; but no assistance was called to her, on a supposition that medicines were improper in her present situation: after her delivery all assistance was in vain, and she died phrenetic on the fifth day. Her child was born, to all appearance, in a healthful state, but was seized with convulsions the second day after its birth, and died the evening preceding the mother's death. I was called upon to attend two other women in the same situation, and directed for them the usual methods of treatment; they had both a happy delivery, and the cough and all other symptoms ceased soon after, except the dejection of spirits, with some slight palpitations of the heart, which soon gave way to foetid medicines.

The disease, in its decline, often assumed the form of an intermittent; and the Peruvian bark seemed immediately indicated, but it never had its wished-for or expected success: it seemed to aggravate the disease, and threatened to bring on a relapse, and was never of use except it acted as a brisk purgative on its being first given, which was often its immediate effect; if not, it was highly prejudicial. Besides; the gentle and mild cathartics, frequently repeated, with diluting liquors; mild diaphoretics, with small doses of emetic tartar in every form of medicine; emetics were given with the greatest success, especially when the nausea immediately indicated them; but if not immediately indicated, were in general found to abate the progress of the disease.

The different state of the blood in this place, from what you found it in London, deserves our peculiar attention. In a workhouse in a neighbouring town, *three* died of the Epidemic, who were all blooded: all the rest recovered, who were not bled, but took the repeated purgatives only, and the *Decoctum Nitrosum*.

Dr. W. W H I T E.

York, Dec. 22, 1775.

THIS Epidemic Disease seems to have appeared rather earlier with us than in London: it was observed before the end of October, became general in the beginning of November, at which time many whole families were indisposed. Not one dwelling-house escaped: I was myself seized with it on the 2d of that month; and, in a very short time, it became the most universal disease that hath

hath been remembered with us. It was much abated by the first week of December, and seems now to have entirely left us.

The attack was generally sudden, with a sense of severe coldness, especially in the back and lower extremities. This, in many, was attended with a giddiness; in a few, with nausea and abhorrence of food, generally uneasiness about the præcordia, great anxiety, and weariness. The pulse small and contracted, from ten to twenty above the natural rate; urine pale; body generally costive. Some had more or less soreness in the throat, and what is called a stuffing in the head, and sneezing violently; all had a very bad tickling cough, which soon caused stitches and soreness in the breast.

Those symptoms, as they were more or less violent, were sooner or later followed by feverish heat, but seldom to any high degree, remarkable soreness all over the body, and slight pains in the head, limbs, loins, and breast. The urine now seldom high-coloured, forming a cloud when cold; a diarrhœa uncommon here, the contrary state common. Pulse in most one hundred in a minute, in several much quicker, seldom full or strong. Tongue whitish, but moist, little remarkable thirst; a complaint of a bad taste in the mouth was general, and the breath offensive.

No regular crisis was observable; the fever was of the remittent kind, and gradually subsided in general. All became much worse in the afternoon, and so continued till three or four o'clock the following morning, about which time a moderate sweating relieved the patient, who, after a few hours of quiet sleep, awoke much easier: the disease thus went on several days, without any intervening cold fit. For four days together my pulse was 90 (15 above the natural rate) in the morning, in the evening 115: the same I observed in several others.

In all, the nervous system was much disordered, various affections of the spasmodic kind occurred, and the anxiety, despondency, and restlessness, were much more remarkable than the general mildness of the vascular irritation gave room to expect.

Regarding the prognosis: A quick recovery followed such urine as quickly turned milky after making, soon after depositing a copious sediment; it was always attended with moist skin, an abatement of the cough, the quickness of the pulse, and anxiety. Some had more considerable sweats; I saw no crisis by a spontaneous diarrhœa, nor any recovery without the urine above mentioned.

This Epidemic was, with us, in general so mild, as seldom to engage the attendance of a physician; yet it brought some aged asthmatics, and young people of a consumptive habit, into imminent danger: of such a few died in this city, especially the former.

As to the curative part, it was seldom necessary here to take away blood:

4 M some

some were relieved by it, but, in general, it did hurt, by depressing the patients. An ingenious apothecary, who, from his extensive practice, had a very great number of the sick under his care, informed me that this evacuation seemed to relieve some immediately, but that he never saw in any other disease so many bad symptoms follow bleeding as in this Epidemic. Gentle cooling purgatives were universally beneficial in abating the anxiety and raising the spirits. Emetics were seldom indicated; nor were blisters often required, but were useful in abating the cough and stitches.

The disease was seldom so violent as to call for antimonials; but when used, as I did in several cases, they never failed in their febrifuge effects. I never gave an anodyne until the pulse was considerably reduced, to about 80, then they had every desirable effect: when given without this rule they often disagreed with the patient, acting as a stimulant.

The appearance of the urine above mentioned, which was always attended with other signs of an *apyrexia*, was my rule for giving the cortex; and it never failed in quickly restoring the patient. Without its assistance several continued for some time in a weak and irritable condition, so as to alarm their friends with the apprehension of a consumption. I was called to one patient who had been a month in this situation, weak, languid, dispirited, and worn out with a violent cough and want of sleep; his urine was as above described: the cortex, and an anodyne at night, with riding upon horseback, soon cured him.

But, in general, a few days confinement, abstinence from flesh meat, and frequent sippings of some tepid pectoral drink, sufficed for the cure. But it was universally found necessary to allow a nutritious diet; and such as had been accustomed to liquors of the more stimulating kind became worse if debarred their use; the anxiety, inquietude, and other nervous affections, being encreased by such procedure.

Although I keep a journal of weather, I think it unnecessary to relate it; it agrees pretty much with Dr. Fothergill's account. I shall just observe, that the Epidemic was probably checked here by a sudden severe frost and snow. The thermometer, which had been for some time between 40 and 50, fell in one night's time to 22, and continued for some days below the freezing point. It is one of Fahrenheit's, and hangs in a garden behind my house, having an open exposure to the south-west.

The above account of the Epidemic, as it appeared at York, may be depended upon for its exactness, being the result of my own and the joint observations of the Faculty here, and it will give me pleasure to find it acceptable to Dr. Fothergill.

W. W.

Dr.

Dr. H A Y G A R T H, *Chester.*

THE Epidemical Catarrh of 1775 seized, in general, the inhabitants of Chester about the middle of November. From the 15th till the 25th of that month the distemper spread most universally; yet very few were attacked so late as December. Indeed I saw one case, on the 2d of November, of a lady who had suffered manifest symptoms of this Epidemic six days before; but I heard of no other instance of its appearing here so early, and the disorder did not become general till near a fortnight later. This Epidemic pervaded all North Wales within three or five days after its general seizure of the inhabitants in Chester; that is, on the 18th or 20th of November, as I have had authentic information from every town and every considerable village, and their neighbourhood. I was curious to know how those were affected who were most secluded from the intercourse of society; an intelligent practitioner informs me, that in Llyn, the most western and remote corner of Carnarvonshire, this Epidemic began about the 20th of November, was general through every part of this peninsula, and affected all classes of people: that one in a family now and then escaped it, but that he knew no family, however small, among whom it did not make its appearance. My medical correspondents mention, that some cases occurred in one part of Wales so early as October the 27th, and in another the beginning of November. In the western part of Cheshire, and that part of Shropshire which borders on Cheshire, I observed that this disease began soon after the middle of November. However, I am certain that in some Cheshire villages the Epidemic had not appeared till more than ten days later, though it afterwards visited these places. These facts, compared with the general seizure, make the theory of this Epidemic very difficult. On the whole, I believe people in the country were attacked rather later than in the towns they surrounded, less severely, and less generally; however, not only the inhabitants of villages, but of solitary houses, were seized with this disease. I could not discover that high or low, dry or moist situations, the neighbourhood of mountains, or of the sea, or any other particular exposure, rendered the Epidemic either later or milder; though I made very circumstantial inquiries to ascertain these facts.

In this Epidemic at Chester the catarrhal and feverish symptoms were most general; yet I saw a few cases of fever without cough, and more of cough without fever. The *catarrhal* symptoms were, a frequent cough, which generally brought up pellucid phlegm, and in old people a plentiful yellow dis-

charge; but in some cases was dry, hard, and violent: a copious watery defluxion from the eyes and nose, frequent sneezing, hoarseness, and sore throat. The *feverish* symptoms commenced sometimes before and sometimes after the cough, and began with chilly and hot fits, irregular and alternate, followed by lassitude, inquietude, uncommon loss of strength and spirits, want of sleep and appetite, giddiness, acute pain in the head, chest, or a particular point of the belly, all increased by coughing; also an aching pain in the head, back, hips, and limbs. The pulse was seldom very full or strong, except in peripneumonic cases; the skin had often no unusual heat; the tongue was generally white and moist, sometimes yellowish and furred; the urine appeared variously, but was commonly high-coloured during the fever. Unless an inflammation attacked the lungs, which was a frequent and dangerous termination of the disease, the fever usually ceased in a few days. The cough continued longer, and was of more uncertain duration. The preceding symptoms were by far the most universal, and exhibit the regular appearance of the disease.

The most common anomalous complaint was a diarrhoea, with blackish stools: sickness and vomiting occurred less frequently. I saw five patients who had fallen down in a swoon, preceded by a violent head-ach; three of these were young women, who had the other symptoms very mildly; the fourth was a gentleman of an athletic habit, who was never confined by the disease; and the fifth was a married lady, who, without a preceding cough, had a very violent looseness, succeeded by a phrenetic delirium, and then by a very urgent cough; the looseness, delirium, and cough, succeeded alternately to each other twice over in a regular manner, but never existed together: at last a red rough itching rash covered the whole body, after which no symptom but the cough remained. In a young girl, a smooth redness of the skin covered a great part of her body, exactly like the appearance in scarlet fevers. One case differed entirely from the usual inflammatory type of the disease. A young lady at a boarding-school was seized at the same time, and with like symptoms, as 26 of her school-fellows. Two days after her first indisposition a diarrhoea, with black stools, began, and continued above three weeks, attended with a putrid fever, black dry tongue, fauces, and lips; sordid teeth, total deafness, and an idiotic delirium; yet she recovered. Her mother and two other attendants were infected by this fever; in which their heads were principally affected with violent pain and a wild delirium: the fever was fatal to one of the attendants, who died phrenetic. The proof of infection, in this putrid fever, was most evident; but I saw no instance of the epidemical catarrh that appeared to be communicated by infection. A very large proportion of the inhabitants of Chester were seized with this epidemic; but, as far as may be concluded from one observation, it appears that there were fewer in the higher than the lower ranks

ranks of society. In the Abbey Square, inhabited by persons who live in ease and affluence, only 73 were attacked out of 97 neighbours; that is, scarcely more than 3 in 4; at the Cross, inhabited by people in trade, that compose the middle rank, 109 had the disease out of 114, that is, nearly 18 in 19; whereas in the House of Industry not one person escaped the disorder out of 175. Other diseases did not preclude this: I saw it accompany measles, consumption, mortification, gout, scurvy, dropsy, jaundice, &c. It attacked many who were confined to their houses, and even to their beds, with other ailments. Young children in general recovered soonest, and had fewest violent complaints: however, I was informed by a person of skill, that he saw one child of two, and another of three months old, with evident symptoms of this distemper. It was most fatal to the aged, the asthmatic, and those who were debilitated by other disorders.

A slight degree of the disease soon went off without confinement, any particular diet, or medicines; but many aggravated both the fever and cough, by exposing themselves to cold. With a large number the symptoms were so violent as to confine them to the house, and even to bed: in these cases plenty of cooling and diluting liquids, drank warm, by encouraging sweats which came on spontaneously, seemed greatly to abate the fever. When the cough was very violent, during or after the fever, bleeding in general manifestly alleviated it, though the blood had seldom a thick fizy crust, and often none at all. In one case, even at so advanced an age as 75, the breathing was so laborious, from a suppression of the cough, and the relief from bleeding was so manifest, and so immediate, that it convinced both my patient and myself that this remedy snatched her out of the very jaws of death. In some cases, antimonials manifestly abated both the fever and cough; in some, blisters were of service; in general, cooling purgatives and other antiphlogistic remedies and regimen, which it is unnecessary to specify, had a salutary effect.

At Chester, the spring of 1775 (March, April, May, and beginning of June) was remarkably dry, and the three last of these months unusually warm: on April the 28th, at two P.M. the thermometer was 72° in the shade. July, August, and September, were wet and warm. On the 19th and 20th of October, for 48 hours, was a storm of wind from the west, attended with rain. The storm was remarkable, both for violence and duration, which wrecked many ships on our coast: the news-papers did not shew that it extended to any great distance; but different storms are mentioned to have happened at different times: their history, connected with that of the catarrh, may illustrate the question whether epidemics have any dependence on storms. During November the wind was generally from the east: the air was hazy for an unusual
number

number of days in this month. About August and September, in North Wales, almost all the horses were seized with coughs.

Though I find that 18 epidemics of this kind have been recorded in medical books during the last 400 years, yet perhaps it may not be deemed superfluous to mention another instance of this catarrh, which seems to be different from the histories I have had an opportunity to consult, in regard to the age of those who were affected. The distemper was general in this city and neighbourhood: the annexed case happened 15 miles from hence. As these epidemics are generally mildest in warm weather, the season probably was a cause of its being attended with moderate symptoms. The following account is extracted from a letter I wrote to my highly-esteemed friend, Dr. Watson, junior, on July 5, 1769:

“ In May some children were attacked with a cough and fever. Towards
 “ the middle of June the disease became almost universal among children,
 “ between a few months and eight or ten years old, very few escaping. In
 “ general it seized upon all the children in a family, though some instances
 “ occurred where only one was attacked out of several who lived together.
 “ Others in the country, who had no communication with the infected, were
 “ seized about the same time, and with equal violence. Hence this catarrh
 “ seems to have been occasioned by the epidemical constitution and unknown
 “ influence of the air, rather than infection. Though the disease has been
 “ universal, I have heard of but two or three cases in which it was fatal.
 “ The symptoms of this catarrh are, a short frequent tickling cough, exactly
 “ like the cough which attends the measles; some are first seized with sneezing.
 “ In a few days the fever begins, with a quick frequent pulse, a hot and
 “ sometimes a moist skin, and a white tongue. The cough generally begins
 “ before the fever, and continues after it. Some children have the cough
 “ (which is a very distinguishable one) without any fever. During the fever
 “ they are generally very sleepy, and sometimes delirious: a difficulty of
 “ breathing generally comes on when the cough and fever are violent. The
 “ urine, in all the cases I have seen, has a copious white sediment; the blood
 “ is very fizy; worms are frequently discharged by stool during the fever.
 “ This circumstance has increased a suspicion I have entertained for some
 “ time, that worms are not so often as supposed, or probably not at all,
 “ the cause of fever. It is natural to expect that fevers should expel worms
 “ from the intestines, but not very likely that worms could produce fevers,
 “ for many reasons that might be adduced, were this the proper occasion of
 “ discussing the point.

“ In this epidemic, bleeding gave immediate relief. Emetic tartar abated
 “ remarkably

“ remarkably both the fever and cough : these, with blisters and cooling
“ diluting drinks, are the remedies on which I principally depend. I do
“ not know of any case that ended fatally when treated in this method : one
“ of those who died was not blooded. I will transcribe you a case to illustrate
“ the disease, in a concise method, that I keep the history of almost all my
“ patients :

“ Junii 17, 1769. Ætatis 6, Mifs D—— Tussis, dies viii. nunc brevis,
“ frequens, et pituitam movens. Febris, dies v. nunc cutis calor auctus,
“ madorque ; lingua albida ; P. 132 ; capitis dolor ; urinæ sedimentum
“ album, copiosum.

“ V. S. $\frac{3}{4}$ v. Hirudo tempori. Tart. emet. gr. $\frac{1}{4}$, 2^{da} horis ad fursum vel
“ deorsum purgandum, quotidie. Vesc. dorso.

“ Jun. 25. Apyrexia. Tussis tantum matutina.

“ Haustus Peruvianus ter quotidie.

“ Jul. 1. Ad sanitatem perducitur.

“ In this case emetic tartar, in others bleeding, gave most relief. It may
“ not be improper to mention, that while this epidemic prevailed, I met with
“ a case of the *croup*, distinguished by a peculiar hoarse wheezing respiration :
“ this patient, who was a boy about five years old, spat up from his wind-
“ pipe four white tough membranes, about four inches long, and half an inch
“ broad, on which the wheezing ceased. In this case both the tonsils and fauces
“ were covered with a white membrane. It seems remarkable, that this disease,
“ which is frequent in Scotland, Sweden, Germany, America, and the West
“ Indies—places so distant, and so different in climate—should never have ap-
“ peared in London, as I was lately assured by a physician of long and the most
“ general practice in that metropolis *. In Chester, and North Wales, several
“ cases have occurred to my observation within a few years.”

Dr. R. PULTENEY, of Blandford, Dorsetshire.

*In order to acquire the most accurate information respecting the Epidemic Influença,
Dr. FOTHERGILL sent printed Sketches of the disease, with the preceding Queries,*

* This disease, of the Croup, occurs not unfrequently in the neighbourhood of London. *Editor.*

to several of his correspondents in the country. Dr. Cuming transmitted one of these to his friend Dr. Pulteney, of Blandford; and the following answers from him were addressed to Dr. Cuming, by whose means I procured them; and, from a respect to the elegant author of A general View of the Writings of Linnæus, I have inserted the original, rather than the abridgment in the Medical
Inquiries.
 Editor.

Blandford, Dec. 17, 1775.

1. I THINK we heard of the disorder in this country rather earlier than the beginning of November. I had this Epidemic myself among the first. You recollect my being ill, when we were together in the middle of October; and I did not get well in less than three weeks after that time.

2. I remarked, that the servants in many gentlemen's families were all said to be ill of *the Distemper*; and that it was considered among themselves as what they caught of each other.

4, 5. My observations, I think, confirm this detail of the symptoms, as far as the number of patients, that I was professionally concerned for, will allow me to judge.

7. Two or three that I saw, who suffered considerably from it, had very dark-coloured stools in the beginning.

8. This observation was remarkably true with respect to several that fell under my care; who were so teased with the cough, as to induce them to get out of bed and sit by the fire in the night-time; by which method they gained a truce, and thought themselves much relieved.

10. No means seemed to produce a better effect, in such as suffered greatly from this disorder, than bleeding: and, as far as I could judge, they bore it uncommonly well. I believe I mentioned to you in a letter, that, so far from finding any thing really putrid in this disease, as was then believed by some, on the contrary I had not remarked, for several years past, the same general necessity for bleeding, or the same good effects from it. Yet, had I not seen that good effect, and remarked the fizy appearance of the blood, I own the black colour of the stools, in two or three cases, would have deterred me, at least, from the repetition of it.

11. It occurred to me, that blisters, in several instances, did not abate the cough so much as might have been expected, and, as often happens, especially for a night or two at least, while the serous discharge continues somewhat copious.

Anodynes did very well after sufficient evacuations; but I did not make much use of them, as I thought, in some cases, they disposed to profuse sweatings in a morning.

Excepting

Excepting bleeding, I trusted more to gentle, repeated, evacuating medicines, than to any other. I thought small doses of James's powder, with or without rhubarb, answered this purpose remarkably well. Indeed I was led sometimes to acquiesce in giving this medicine, from having found my patients in the use of it when I was called in, and in finding that it had done well with them. Nevertheless it was judged necessary to repeat bleeding, in some cases, to the third time, and I did not think that I ever had reason to be dissatisfied with it.

12. Although something like an intermittent type was remarked in a few cases, yet I judged the disorder to be going off at that time, and did not direct the bark.

13. I am certain, as to myself, that I never rode out, whilst I suffered from this disorder, without aggravating the cough. And, more than once or twice, when I thought it going off, a ride brought it on again with considerable violence: yet, at last the cough left me very abruptly, without my being able to assign any particular cause for so sudden a departure.

15, 17. It seems to me that it was by no means so universally felt with us as it appears to have been in London; and I do not know of one person who fell under my particular cognizance, either professionally or otherwise, that died of it.

20. I heard much of horses and dogs being affected, before it was felt among the human race; and I remember to have seen blood that was taken from horses, at the time, uncommonly fizy: but I apprehend this appearance to be very common, and that the blood of stabled and pampered horses has usually this appearance on almost all occasions.

Dr. WILLIAM THOMSON, of Worcester.

Dec. 20, 1775.

THIS distemper became general here about the middle of November, and spread gradually in the country around.

In some, the head was affected to a degree of stupor and delirium, which were relieved as soon as the chest was affected.

A diarrhœa frequently happened, and always moderated the other symptoms.

In most cases, where the symptoms were violent, bleeding was necessary, even to the third time: nor did I observe any inconvenience from it.

The fatal consequences of the disorder to old asthmatic people were frequent hereabouts.

People in general recovered slowly, and, for a good while, suffered great weakness and dejection.

G. S K E N E, *of Aberdeen.*

IT began here near the end of November, and continued for four or five weeks : the second and third week it was very general. It went regularly northward, but was not universal to the north of this city. It did not visit Frazerburgh, though there was a putrid fever there very fatal at that time.

The disease never assumed the type of an intermittent here ; but it is to be observed, that the intermittent fever is not known in Aberdeen. We never see a regular intermittent, except the patients bring it from other climates immediately, or have been great sufferers by it formerly in other countries ; and our fevers very rarely assume that form in their decline.

Dr. D. C A M P B E L L, *of Lancaster.*

Feb. 18, 1776.

WHEN the disorder became so universal here, I think its nature, as a *contagious* complaint, might (besides its running so generally through whole families) be fairly proved by its progress from London to the North. Every account shewed the prevalence of this epidemic in *London*, for near three weeks before it extended to *Lancaster*. Even when almost every person at *Liverpool* was attacked by it, I scarcely remember to have heard, upon the most diligent enquiry, that a greater number of persons was affected with catarrhus symptoms than usual. But I think in about three days after we had been informed of the frequency of the complaint at *Liverpool*, there was scarcely a family in this town but had one or more persons seized. About this

this time I remember to have seen a gentleman from Kirkby Lonsdale, which lies about fourteen miles hence, in a north-east direction, who informed me, not a person he then knew of was, at that time, affected there; but the next week he informed me, it was then equally universal as with us. At the same time he told me, that *Kirkby Steven* (which lies about the same distance from Kirkby Lonsdale, in a similar direction) had yet escaped. In a few days, however, I understood the complaint was equally general there.

These complaints, which in a manner disappeared on the setting-in of the frost, in the beginning of January, have, since the thaw, which took place the 1st of February, again become rife, though not with the same frequency and violence as in December.

S O M E A C C O U N T

O F T H E

D I S E A S E O F W H I C H D R. F O T H E R G I L L D I E D.

THE urinary bladder, though situated in the lower part of the abdomen, where it is accessible, by the passage of the urethra, to the introduction of an external instrument; and, posteriorly, by the rectum, almost to the contact of the finger; is nevertheless liable to diseases, the state and nature of which, during life, have been so dubious, as to be ascertained by dissection only after death. Morgagni *, who has paid attention to the diseases of this viscus, admits this difficulty; and the Symptomata and Extispicia of Lieutaud † afford the most decisive proofs of this uncertainty, as well as the Nosologia of Sauvages ‡, and the writings of many other authors of celebrity §.

Dr. Fothergill's disease was one of those attended with some obscurity: we may trace symptoms of it as early as 1778, which was almost two years before its fatal termination. I have before me the Doctor's own opinion upon

* De Causis et Sedibus Morborum, lib. iii. lit. 41, art. 12, and particularly 13, 16, 17; and his numerous authorities, to lit. 43, art. 4.

† Historia Anatomico-Medica, vol. i. p. 293, et seq.; vol. ii. p. 330; Obs. 1333 ad 1352.

‡ Nosologia, vol. ii. p. 520, et seq. de Ischuria.

§ It is not my design to speak particularly of the diseases of the bladder; and therefore refer to the writers already quoted, and to their numerous authorities, which may be seen under the pages to which I have referred.

I may likewise add here, that Hippocrates, and many ancient writers, contain very useful facts upon this subject; and of the moderns, consult Hoffmanni Oper. tom. iii. p. 275; Suppl. Secund. p. 476; De Exulceratione Vesicæ; Comment. de Rebus, vol. xvii. p. 3. pag. 641; and particularly Acta Academ. Regiæ Scientiar. an. 1758, vol. xix.; Comment. de Rebus, vol. viii. p. 16, vol. xix. p. 469, vol. xxi. p. 500; Adversaria Medico-Practica, vol. ii. p. 675, entitled, Commentatio de Ischuria ex Tumoribus Vesicæ; Petit Traité des Maladies, &c. tom. iii. p. 7; Journal de Médecine, par M. A. Roux, tom. 31, Paris 1769.

the first attack of his disorder, as communicated to some of his distant correspondents soon after his recovery. To one of them he relates the following particulars, which I shall transcribe :

November 30, 1778. “ This day fortnight I found, on waking out of a short sleep, a forcible inclination to make water, but without the power. I had perceived some heat and unusual difficulty, for a day or two. I immediately got up, took a saline laxative which I had in the house ; and found myself so much better next morning, as to go my usual round of business. In the night I was seized with a total retention : I was bled, had repeated injections instantly, but to no effect. I took oily and highly anodyne draughts ; and, without the least mitigation of pain, took upwards of 200 drops of Tinctura Thebaica in the space of a very few hours, which barely mitigated my distress ; till, after repeated and fruitless attempts to draw off the water, with grievous suffering to myself, and no small difficulty to the most experienced operator in Britain, we at length succeeded. I still continue under the necessity of having it drawn off twice a day, not a drop passing without it ; but the operation becomes daily rather less painful to myself, and less difficult to my friend Percival Pott, who attends me.

“ The immediate cause of this difficulty seems to be a great thickening of the neck of the bladder, which was the effect of inflammation. This, being a recent cause, and all fever now removed, will probably ere long give way.—To this another cause is added, which will require attention hereafter, if I am permitted to survive ; an enlarged, but not otherwise morbid, prostate gland.”

To another correspondent, about two weeks afterwards, when the suppression was removed, he offers a further explanation of this disease.

“ Emptying the bladder as often as distension made it necessary, was the only certain relief I had, till the obstructing cause, an inflammation near the bulbous part of the urethra, which closed the passage totally, was removed by evacuations and regimen. In proportion as this gave way, the parts began to produce their usual effects, weakly and irregularly at first, but by degrees more naturally and uniformly ; for I found a considerable defect in this operation for a long time, for want of all the parts concerned in it uniting in action in the same moment.—If the bladder contracted, and the sphincter was not opened the same instant, pain ensued : if these acted at the same time, and the muscles necessary for its progress through the urethra did not instantly lend their assistance, all was ineffectual. As strength returns, I find all these difficulties abate.”

From this period he continued gradually to recover, and to regain all his usual functions, except the ability of retaining his water as long as formerly ;

and

and discharged the duties of his profession with his usual application and assiduity.

Soon after he began to recover he felt a pain, though not very acute, in one heel, which he ascribed to the gout; and his subsequent continuance in health confirmed him in opinion, that the disease he had suspected in the prostate gland, was not a morbid enlargement, but a gouty affection of that part.

Under this deception he remained till the 12th of December 1780, when the second and final attack commenced. He had, on this day, been incessantly engaged in his professional duties till late in the evening; and had experienced throughout the day more frequent irritations to make water than usual; but it was not till midnight that he perceived a total suppression, accompanied with acute pain about the neck of the bladder. To obviate the pain, he had recourse to a large dose of laudanum; and in the morning the catheter was attempted to be introduced, but without effect: a considerable tension of the abdomen gradually supervened, on which account purgative medicines and clysters were repeatedly administered; which, however, did not produce any intestinal discharge for near three days, either from the torpor of the canal, increased by opium, or from the pressure of the bladder, enlarged by obstructed urine, and its neck by a tumor, which dissection afterwards more fully ascertained.

To remove the inflammation, he was bled in the *arm*; and, after a few days from the attack, he occasionally made use of a warm bath in his bedchamber.

In the whole progress of this disease no material variety of symptoms occurred. After the means were used to obviate inflammation, by bleeding, by laxatives (to which the intestines slowly and reluctantly answered, without removing the abdominal tension) by diluents, and a tepid bath, almost the only resource was in the catheter: and this instrument, which, on a former occasion, had afforded the most happy relief, was unavailable in the present instance, though directed by the same able *. However, though no urine was discharged by the catheter, a small quantity was continually oozing through the urethra, which tended to prolong a painful existence to the 26th of December, when he died.

It would prove of little utility, in the present case, to describe every trifling variation in the symptoms of the disease itself, or the minutiae of medical treatment. By the catheter no urine could ever be evacuated: after stools had been with difficulty procured by oily and saline purgatives, aided by clysters, to lessen the enlargement of the prostate gland calomel was taken

* Dr. Watson, Dr. Warren, and Dr. Reynolds, were his physicians; and Percival Pott the surgeon alluded to.

internally,

internally, and small quantities of mercurial ointment were rubbed on the perinaeum. When the pain was violent, opiates were necessarily given.

The pulse, especially in the early period of the disease, was hard and quick; the whole abdomen was tight, and amazingly tumified; the tension just above the os pubis was still more considerable. He expressed his feelings to me, as if he had been violently inflated with wind to an unusual magnitude; and his thirst was almost insatiable; but, throughout the course of the disorder, his senses were remarkably uniform and collected.

T H E D I S S E C T I O N .

UPON inspecting the dead body, the whole belly appeared to be considerably, but by no means uniformly, swollen, the tumescence being much greater on the left side than on the right.

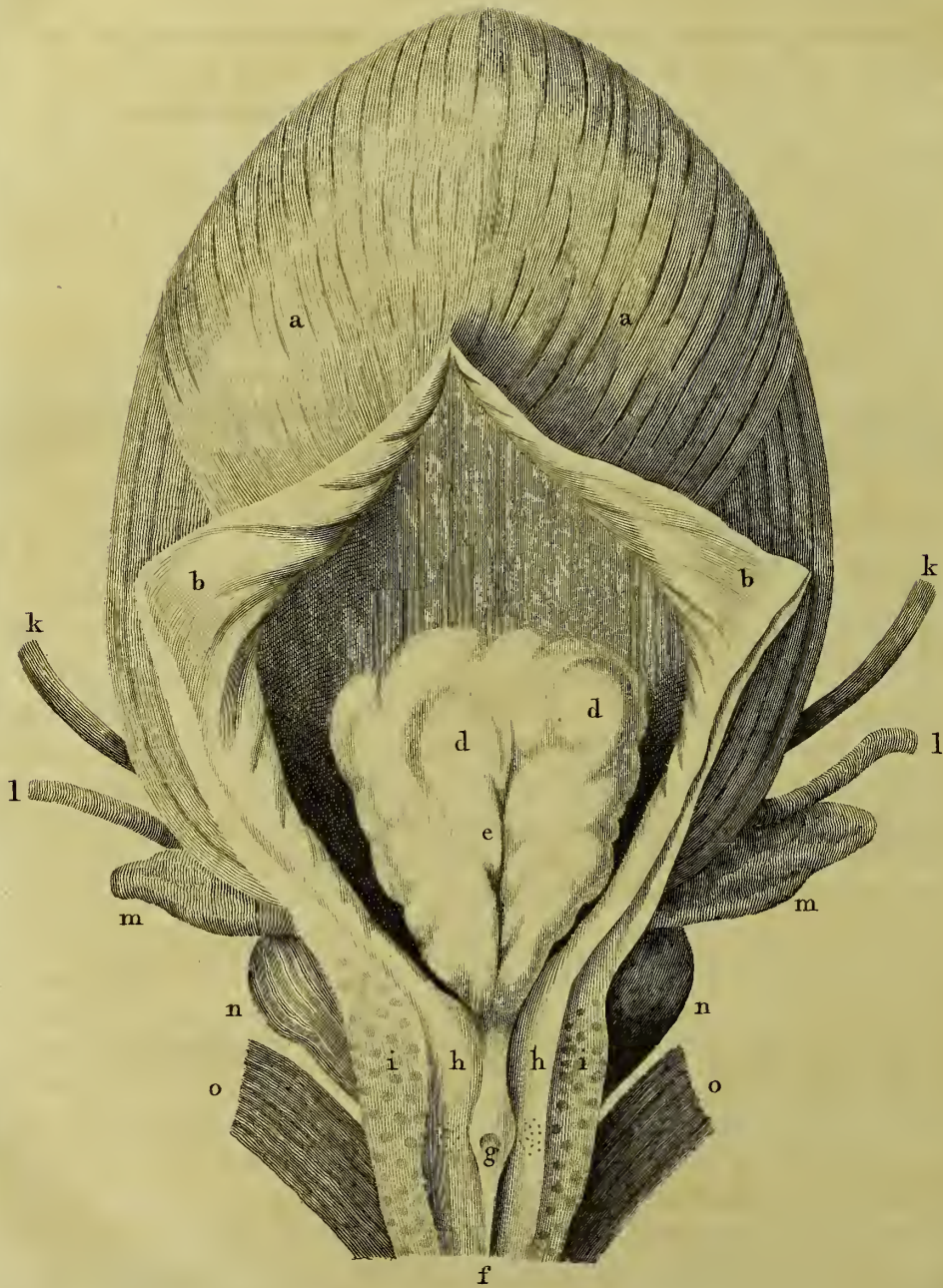
Upon opening the abdomen, scarcely any vestige of an omentum was to be found; although there was no deficiency of fat any where else, where it might be expected.

The *bladder*, containing a large quantity of urine, was so distended as to reach nearly as high as the navel; the coats were very considerably thickened, and the greater part of its bulk or volume occupied the left side of the body, owing to an unnatural connection with the parts in its vicinity on that side. The coats of this organ were much thickened every where, and in the lower part of its cavity, close to its neck, was found a fungous excrescence, in size somewhat larger than the largest of what are commonly called French walnuts, and longer in proportion to its breadth: it was hard, rough, unequal in its surface, of a pale red colour; and was largely and firmly attached to, if not springing from, the internal coat of that part of the bladder which was next to its neck.

In the superior part of the fungus, the body lying supine, there was a division or slit, forming a kind of gutter or channel, which passed through about half the thickness, and occupied something more than half the length, of this excrescence. By means of the gutter or channel the catheter had always, during the Doctor's last illness, been with facility admitted into the body of the fungus, but could never proceed further; by which, although it was truly in the bladder, yet, being within the fungus also, it could never serve the purpose for which it was introduced.

On





VESICA. *Urinaria.*

J. Church del.

On the other hand, this gutter, several days before the Doctor died, had suffered such a quantity of urine involuntarily and continually to pass off, as, though insufficient to empty the bladder, or remove its distension, had yet been fully sufficient to prevent either its becoming gangrenous, or bursting; of neither of which was there the smallest appearance.

In the middle of the fungus was a small stone, about the size of a very small horse-bean, but thin and flat*.

The prostate gland itself was enlarged, hard, and by no means in a natural state.

EXPLANATION of the PLATE.

The bladder, with part of the urethra opened from the anterior part.

- a a.* The body of the bladder.
- b b.* The inferior and anterior part of the bladder divided, and thrown back.
- c.* The neck of the bladder.
- d d.* The tumor connected with the prostate gland.
- e.* A fissure or cavity in this tumor.
- f.* Part of the urethra divided.
- g.* Caput gallinaginis, with its orifice.
- b b.* The orifices of the excretory ducts of the prostate.
- i i.* The corpus cavernosum of the urethra.
- k k.* The ureters divided.
- l l.* The vasa deferentia divided.
- m.* The vesiculæ seminales.
- n n.* The prostate gland.
- o o.* The erector muscles.

* This was probably collected, after the disease had been formed, by deposition of sand from the urine, as it percolated through the fissure or channel of the excrescence.

R E M A R K S.

WHEN the bladder is thus distended, its neck is thrown up towards the os pubis, which renders the introduction of the catheter extremely difficult to the operator. The muscular fibres running along the sides of the bladder, are antagonists to the fibres surrounding the orifice of it. If the bladder be thus distended with urine, so that the muscular fibres on its sides lose their contractile force, and become as it were paralytic, those forming the sphincter muscle, having now lost their equilibrium, immediately contract, and form a spasm; and the greater the distension, the stronger is the spasm on the orifice of the bladder, and a natural excretion of the urine becomes more and more impracticable: hence, in such cases, it happens, that after the urine has been evacuated by means of the catheter, the bladder does not recover its tone for many days, or even weeks.

A suppression of urine may thus come on, without any primary morbid affection of the bladder in general, or the prostate gland in particular; as from hæmorrhoids*, blisters, or other external or internal stimulants. Persons confined in company, and influenced by delicacy, have, by long retention of urine, suffered a total suppression; and the muscular fibres of the bladder, being once distended beyond the tone of contractile power, can only be relieved by means of the catheter: the distending fluid being removed, the disease, thus induced, usually terminates speedily.

If, from a repetition of such circumstances, or from any other exciting causes, inflammation to a considerable degree should ensue, the cause of the disease, and the subsequent symptoms of suppression, are more difficultly removed. The volume of urine pressing more forcibly upon the prostate gland, generally excites the most urgent symptoms in this part. This stage of the disease may be termed *simple inflammation*.

But if, from the violence of the inflammation, from acrimony of the fluids, or from other predisposing disposition of the patient, the vessels of the internal coat of the bladder and prostate gland become thickened and varicous, a more permanent and dangerous affection results; and this stage may be called *varicous inflammation*.

The internal membranes of the viscera are seldom long inflamed, but aggravated mischief ensues; those lining the bladder and covering the prostate

* Hoffmanni Consult. et Respons. Med. Cent. ii. & iii. § 3. cas. 84, 93.

gland become considerably thickened, and a kind of herpetic eruption, or morbid obstruction of the glands, have accompanied the varicous state of this viscus, and sometimes also a cystirrhœa, which I have known instances of without the presence of calculus or ulcer. This stage may be termed *chronic inflammation*.

In any of these stages, where inflammation has been great, and the fluids perhaps morbid, the membrane covering the prostate gland and internal surface of the bladder * is liable to form fungous or schirrous excrescences, which sometimes destroy the patient, by mechanically stopping the passage of the urethra, as happened in the subject whose case gave rise to the present enquiry. In these states the prostate gland itself is usually diseased, and mostly scirrhous or enlarged, or even ulcerated †; being liable, like other glandular bodies, to various diseases, from obstruction, from a bad state of the habit, or other causes. For the sake of distinction, this stage may properly be called *a morbid affection of the prostate gland*.

1. *The inflammatory state*, after the urine has been evacuated by the catheter, is further relieved by bleeding from the arm; by oily laxatives, such as castor oil, manna with oil of almonds ‡; by emollient anodyne clysters §; by the warm bath; by smooth mucilaginous drinks, and indulging in an easy reclined position.

Besides these means, which must occur to every practitioner, topical bleeding is one of the most essential remedies in every species of inflammation in the bladder, and it is at the same time one of the easiest to institute: for this purpose I have ordered from six to twelve leeches to be applied to the perinæum. As a partial inflammation, it occurred to me peculiarly to demand a partial application; and the benefit that has resulted induces me to urge this.

* Sometimes the internal membrane of the bladder forms a duplicature near the neck of the bladder, and acting like a valve, has prevented the exit of the urine, and thereby destroyed the patient, without any morbid affection of the bladder itself. A dissection of this kind is in the possession of surgeon Young.

† An ulcer of the uterus, or of the colon or rectum, in some instances, is communicated to the bladder, and has even dissolved the substance of this viscus, in such a manner as to allow the fæces, &c. to pass into it. A case and dissection of this kind is now before me.

‡ Purgatives of neutral salts are often given, from a supposition of their action being determined to the bladder; but for this very reason they should be avoided, and every other means likewise that determines the fluids to this viscus, or excites irritation.

§ In most diseases of the bladder and prostate gland, anodyne clysters are peculiarly interesting: after having been used with gradual amendment of the patients, I have known instances where, from neglect, the injection has been omitted, all the painful symptoms have returned, and been aggravated.

practice in the strongest manner, as one of the most easy and efficacious remedies.

2. *Varicous inflammation* not only requires all the former means of removing *simple inflammation*, but also a longer perseverance in their use, in order to obviate that habitual fulness, and inflammatory affection of the blood-vessels and mucous membranes of the parts. This is to be effected by a continued attention to vegetable, light, mucilaginous, and spare nourishment; by repeated bleedings, particularly in perinæo; by avoiding long retention of urine, riding on horseback, and other causes, which bring a determination of the fluids to the bladder. When there is *varicous inflammation*, the introduction of the catheter, though carefully performed, often excites an hæmorrhage: this, however, is seldom pernicious, as it empties the vessels preternaturally distended; and I have sometimes seen the suppression cease, after a copious sanguineous discharge has followed the removal of the catheter.

3. *Chronic inflammation* is a term, however paradoxical it may appear, that occasionally takes place, and is particularly applicable in some states of the bladder. Like *varicous inflammation*, the means of obviating preternatural determination must be long pursued. To these I may add the use of issues in the thighs, as one of the most important means of relief in this stage; and particularly, where a cystirrhœa* endangers the life, or where ulcers of the bladder may be suspected. Here likewise a decoction of uva ursi†, with gummi storax calamita‡, has afforded considerable benefit: where much debility has ensued, a decoction of Peruvian bark may be substituted for that of uva ursi.

4. *In*

* Pyuria of Sauvages, *Nosologia Methodica*, tom. ii. p. 394, class. 9. xxviii. See Parnham, *Thesis de Cystirrhœa*, Edinb. 1772.

† Jo. Andr. Myrray, *Comm. de Uva Ursi*, Gott. 1764; De Haen, *Rat. Med.* tom. ii. p. 160; Ejusd. *Lettre à un de ses Amis*, 1763, p. 92; Linn. *Amœnit. Acad.* vol. ii. p. 407; Crantz, *Mat. Med.* tom. ii. p. 24.

‡ In the following proportions:

R. Uvæ Ursi, semi-unciam, coque ex
Aquæ Fontanæ, unc. xvj. ad unc. viij.
Sub finem coctionis addendo
Gummi Storacis Calam. drachmas duas, tum cola.

R. Hujus Colaturæ, sesqui-unciam;
Spir. Lavend. comp. vel
Tinct. Cortic. Peruviani, semi-drachmam.

M. fiat haustus ter die sumendus.

R. Extract. Cicutæ, ʒj.
Sulph. Aurati Antimonii, ʒj.
M. fiat pilul. xiv. cap. i. vel ii. om. nocte.

R. Argenti

4. *In morbid affections of the prostate gland* attention must be directed to the primary cause, as well as to the present state of morbid affection. The remedies before recommended may be applicable here also; but after all these means have been assiduously attended to, a schirrous enlargement of this gland may subsist.

In some instances of this nature, where inflammation no longer prevails, cicuta, and a solution of argentum vivum, in small doses, may be prescribed, even where no syphylitic taint is suspected to have brought on the disease: where this infection has preceded a morbid state of the prostate gland, mercurials have an effect still more certain and efficacious.

If the cause of suppression originates from a calculus, regard must be had thereto. It sometimes happens that a calculus is present, but cannot be discovered, especially when the prostate gland is much enlarged; for the catheter, as it passes over the gland, may be carried above and beyond the calculus, and detection of it thus eluded, particularly if it lie immediately under the protuberance of this gland.

If the morbid affection prove rebellious to every effort of art, and increases so far as totally to obstruct the urethra, I know of no alternative to prolong life, except puncturing the bladder; but of this I have no experience. Human ingenuity has never yet, that I have heard of, found out a means of removing such tumors in the male sex*, without wounding the bladder; and whether the operation, if it prolongs life a little, is preferable to death, is not quite clear†.

R. Argenti Vivi, grana iij.

Pulv. G. Arab.

Sacch. Alb. ā ʒj.

Aq. Puræ, ʒiſs. Tere Argentum Vivum cum Gummi et Saccharo, donec evanescant globuli, et gradatim adde Aquam, fiat haust. bis die sumendus.

* Surgeon Warner has communicated cases of tumors of the bladder and urethra having been removed with success in the female sex. Ph. Transf. vol. xlvi. p. 1006; vol. xlvii. N^o 45, p. 292, and N^o 79, p. 475.

† See Medical Observations and Inquiries, vol. vi. p. 101.

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 F O T H E R G I L L I A N M E D A L.

To the MEDICAL SOCIETY of LONDON.

GENTLEMEN,

TO preserve the memory of illustrious characters by some permanent memorial, is not only grateful to the friends of the deceased, but excites in the living that commendable emulation, which leads to great and virtuous actions. Such were those which will render dear to distant posterity the name of Dr. JOHN FOTHERGILL; in memorial of whom I have ordered a medal to be struck, under the patronage and at the disposal of the Medical Society of London, held in Crane Court, Fleet Street. It will be in gold, of ten guineas value, to be called the FOTHERGILLIAN MEDAL, and be given annually, on the 8th day of March, to the author of the best Essay upon a prize question, proposed by the Society, on a subject of Medicine or Natural History.

The manner of proposing the annual question, and of determining upon the merits of the memoirs of the candidates, I refer to the determination of the Society; being persuaded, from the unanimity of their meetings, and the learning and judgment of their members, that their decisions will be calculated to promote medical science in particular, and physics in general, which are my motives for requesting their patronage of the FOTHERGILLIAN MEDAL.

JOHN COAKLEY LETTSOM.

London,
May 25, 1784.

LONDON

LONDON MEDICAL SOCIETY.

SIR,

Crane Court, 4th June 1784.

AT a special meeting of the Medical Society, convened for the purpose of taking into consideration your very liberal proposal of the FOTHERGILLIAN MEDAL, to be disposed of annually, at the option, and under the patronage of this Society :

I am ordered to inform you, that the same has been considered accordingly, and met that warm reception and approbation such a distinguished favour was so well entitled to :

And that this Society, being highly sensible how much you had thereby contributed to its advantage and reputation, order me to present you with the Thanks which were unanimously voted to you at this meeting.

By order of the Society,

WM WOODVILLE,

(one of the Secretaries.)

To J. C. Lettsom, M. D. &c.

THE following Members of the Medical Society, being appointed a Committee to consider of the plan and distribution of the FOTHERGILLIAN MEDAL; viz.

James Sims, M. D.
 William Woodville, M. D.
 John Meyer, M. D.
 William Hamilton, M. D.
 John Coakley Lettsom, M. D.
 Mr. William Norris;

Recommend, That the obverse of the Medal exhibit

The head of Dr. FOTHERGILL, with this legend;

FOTHERGILLIUS. MEDICUS. AMICUS. HOMO.

In the exergue—*Nat. Mart.* 8, 1712. *Ob. Dec.* 26, 1780.

The reverse—Hygeia standing near the tomb of Dr. FOTHERGILL, holding in her right hand a wreath to crown the successful candidate, who is presented by Esculapius.

The legend—DON. SOC. MED. LOND. AN. SAL. 1773, INSTITUT.

REGU-

REGULATIONS *respecting the* MEDAL.

1. THAT the Medal be given annually to the author of the best Dissertation, on a subject proposed by the Society, for which the learned of all countries shall be invited as candidates.

2. Each Dissertation shall be delivered to the Secretary, written in a legible hand, in the Latin, English, or French language, at least two months before the meeting for adjudging the Medal.

3. With it shall be delivered a sealed packet, with some device on the outside; and within, the author's name and designation.

4. The same device shall be put on the Dissertation, that the Society may know how to address the successful candidate.

5. There shall be a Committee appointed by the Society, for the purpose of adjudging this Medal, consisting of the Council; to whom shall be joined such other Members as the Society shall think proper; and their sentence shall be final.

6. The Medal shall be adjudged on the 8th day of March, that being the birth-day of the late Dr. FOTHERGILL. The first Medal shall be adjudged in the year 1786.

7. No Dissertation with the name of the author affixed can be received, that the Committee may decide on the merits of each, without any knowledge of, or partiality for, the author.

8. All the Dissertations, the successful one excepted, shall be returned, if desired, with the packets unopened which contain the names of the authors.

The following Question is proposed as the subject for the first Prize Medal :

*“ What diseases may be mitigated or cured by exciting particular affections or
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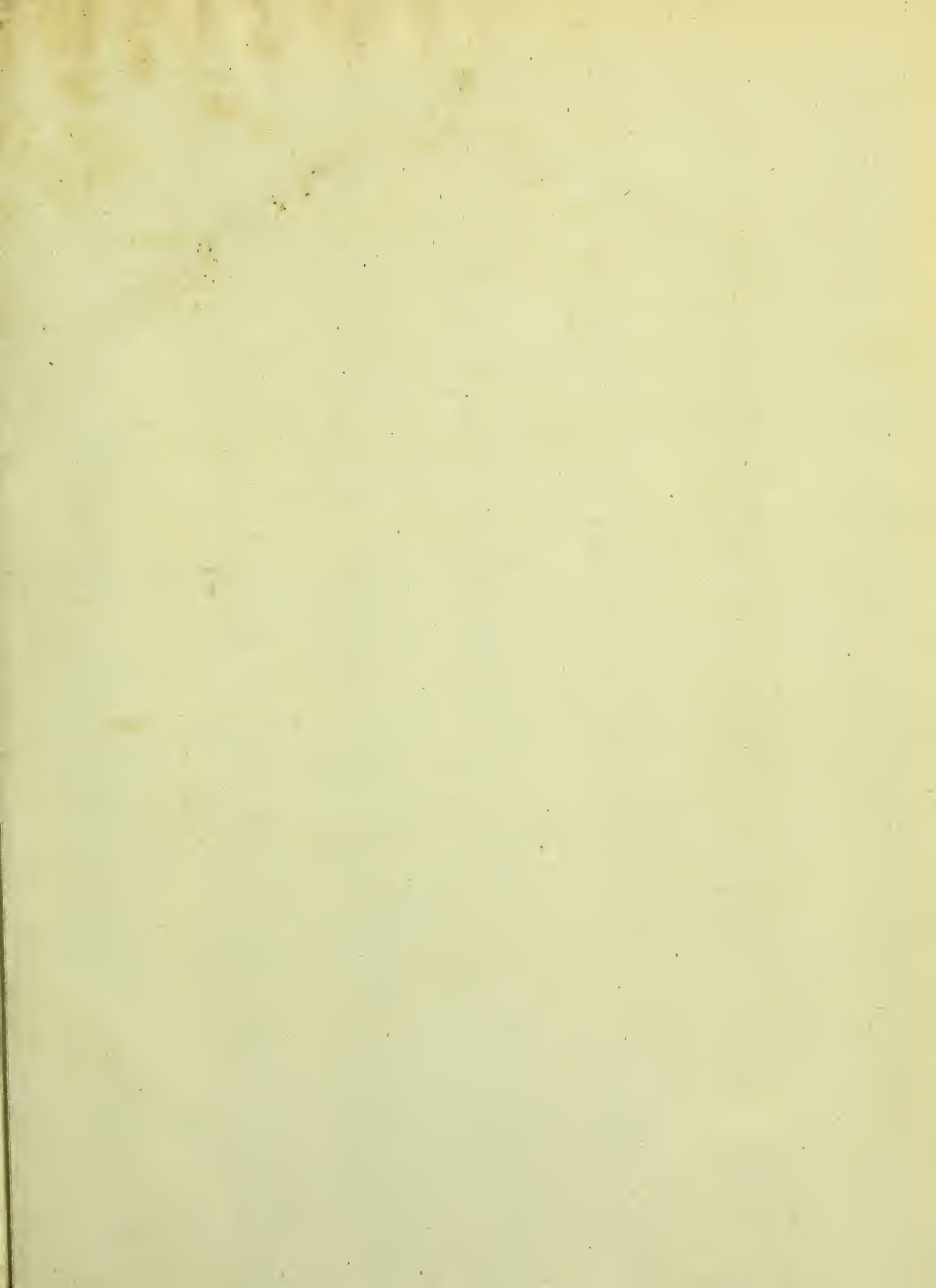
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